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ABSTRACT

"Classification Structures for Career Information" was created to provide Career Information Delivery Systems (CIDS) staff with pertinent and useful occupational information arranged according to the Standard Occupational Classification (SOC) structure. Through this publication, the National Occupational Information Coordinating Committee provides technical assistance to states to assist them in converting their existing CIDS to a SOC structure. A secondary purpose of the publication is to provide counselors with a compendium of occupational information compiled from a great variety of sources. The publication is organized in three volumes. This first volume, divided into three parts, contains the 1980 Standard Occupational Classification (SOC) codes and titles in a four-level taxonomy. Subtitled "Occupational Statements," this volume is primarily designed for counselor/client use. It also contains information useful to people using the SOC to classify information obtained from surveys, preparing information for a CIDS, or for other technical purposes. The Occupational Statements contain a brief guidance-oriented definition for each of the 834 categories contained in the 1980 SOC. Each definition is identified with both the SOC title and its code. In those cases where a SOC category has been assigned Dictionary of Occupational Titles (DOT) codes and titles, this additional information is included: sample work activities, hours of work, travel, and sample places of work. [This document contains part 2 of volume I--SOC numbers 4499 (administrative support occupations) to 6560 (mining occupations).] (KC)

National Occupational Information Coordinating Committee

CLASSIFICATION STRUCTURES FOR CAREER INFORMATION

OCCUPATIONAL STATEMENTS, VOLUME I

PART 2 SOC Numbers 4499 to 6560

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

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INTERIM EDITION
1981

CLASSIFICATION STRUCTURES

FOR

CAREER INFORMATION

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CLASSIFICATION STRUCTURES FOR CAREER INFORMATION

CSCI

Volume I: Occupational Statements

Part 1: SOC Numbers 1099 to 4490
Part 2: SOC Numbers 4499 to 6560
Part 3: SOC Numbers 6699 to 7600
Numeric Index

Volume II: Occupational Characteristics

Part 1: SOC Numbers 1099 to 4490
Part 2: SOC Numbers 4499 to 6560
Part 3A: SOC Numbers 6699 to 7679
Part 3B: SOC Numbers 7700 to 9900
Numeric Index

Volume III: Technical Information

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4499 ADMINISTRATIVE SUPPORT OCCUPATIONS, INCLUDING CLERICAL

These workers perform jobs that enable an organization to run smoothly. They may work as secretaries, typists, or stenographers. Others run computers, computer-related equipment, or other office machines. Some gather and file data while others keep inventories, disperse materials, or fill out forms. They may investigate claims, provide various kinds of information, or collect debts and serve notices. Some plan and supervise the work of others.

45 SUPERVISORS: ADMINISTRATIVE SUPPORT OCCUPATIONS, INCLUDING CLERICAL

These workers supervise the activities of others who perform jobs that help an organization to run smoothly. They determine the work that needs to be done by such workers as file clerks, information clerks, office machine operators, bill collectors, and distributing clerks. They establish work procedures, assign workers, and set up work schedules. They train workers, review work for neatness and accuracy, and find ways to improve efficiency.

4511 SUPERVISORS; GENERAL OFFICE OCCUPATIONS

These workers supervise clerical staff who perform routine duties in an office. They set up work procedures, prepare work schedules, and see to it that office work runs smoothly. They assign duties to office workers and check their work for neatness and accuracy. They listen to workers' complaints and try to resolve them. They also train staff and may prepare letters and forms, and take dictation, check inventories, order office supplies, and keep payroll and other records.

SAMPLE WORK ACTIVITIES

- Direct the activities of workers who process applications and claims
- Prepare correspondence and take dictation
- Check applications for errors
- Answer questions on the phone
- Supervise workers who do clerical work
- Schedule work hours for staff to make sure enough workers are available for around-the-clock shifts
- Train new employees and evaluate their work
- Take inventories of equipment and supplies
- Check records for completeness and accuracy
- Supervise clerical workers who keep payroll records

HOURS OF WORK/TRAVEL

- Generally, these jobs involve a standard 35-40 hour work week, during regular office hours.

SAMPLE PLACES OF WORK

- Government Agencies
- Hospitals and clinics
- Business offices
- Insurance companies
- Police departments
- Non-profit organizations

4512 SUPERVISORS; COMPUTER AND PERIPHERL EQUIPMENT OPERATORS

These people supervise the activities of workers who operate computers and related machines. They train workers and see that the machines are cleaned and cared for. They set up work schedules, assign duties to workers, and help solve work problems. They prepare report forms and compile reports on the progress of work. They also develop methods to process information used by computers. They wire control boards to prepare machines for different operations. They also may make minor changes in computer programs.

SAMPLE WORK ACTIVITIES

- Set up work schedules and assign duties to workers
- Train new workers in the use of computers and related equipment
- Operate a computer system to test new and revised programs
- Make minor changes in computer routines so the output (information coming out of a computer system) will be in a different format
- Help COMPUTER OPERATORS locate and correct errors
- Follow a diagram to wire a computer control board for a particular operation
- Check equipment operators' work for neatness and exactness
- Solve work problems
- Prepare written instructions for workers

HOURS OF WORK/TRAVEL

- Many organizations use their computers 24 hours a day. Therefore, some workers in these jobs may have evening or night shifts. Most workers have a standard 35-40 hour work week.

SAMPLE PLACES OF WORK

- Manufacturing firms
- Wholesale and retail trade companies
- Banks
- Government agencies
- Insuance companies
- Companies and firms that provide data processing services

4513 SUPERVISORS; SECRETARIES, STENOGRAPHERS, AND TYPISTS

These people supervise workers who type, take dictation, or perform similar clerical tasks. They determine work procedures and prepare work schedules. They give spoken and written instructions to workers, assign them duties, and check their work for neatness and correctness. They also study office procedures and plan ways to make work go more smoothly. They help workers solve problems and may work along with them. They also write reports and keep records.

SAMPLE WORK ACTIVITIES

- Assign workers to take dictation for executives
- Assign recorded messages to workers for them to transcribe
- Check typed copy for neatness, spelling, and punctuation
- Supervise the activities of workers who prepare letters, records, reports, insurance policies, and other clerical matter
- Advise staff members in the techniques and style of dictation and letter writing
- Recommend changes in procedures that will save time, money, and labor
- Assign new workers to experienced workers for training
- Evaluate workers' performance
- Recommend that workers be promoted, transferred or fired
- Keep worker time records

HOURS OF WORK/TRAVEL

- Most of these workers keep standard office hours. Occasional overtime work may be required in some jobs.

SAMPLE PLACES OF WORK

- Banks
- Business and industrial firms
- Doctors', lawyers', and other professionals' offices
- Federal, State, and Local Government agencies
- Insurance companies
- Real estate firms

4514 SUPERVISORS; INFORMATION CLERKS

These people supervise workers who compile and give out information and provide other services to the public. They determine work procedures and prepare work schedules. They give instructions, assign duties, and review work for neatness and exactness. They also look for ways to improve work efficiency. They handle complaints and adjust errors. They may hire, train, and dismiss workers. They may prepare reports, order supplies, and keep time and other records. They also may perform duties of the workers they supervise.

SAMPLE WORK ACTIVITIES

- Talk with management and check past records to determine staff, budget, and equipment needs
- Recruit, hire and train workers
- Explain work practices and procedures to workers
- Assign shifts to workers
- Order supplies
- Keep weekly attendance sheets and send them to payroll
- Write business letters and reports
- Talk with people to obtain information
- Direct and review the work of staff
- Keep records of work activities
- Review forms for completeness and accuracy
- Issue instructions on schedules changes
- Listen to conversation between workers and callers to make sure that accurate information is being given out
- Prepare daily worker and activity reports
- Arrange for speakers to address gatherings
- Recommend that workers be promoted or fired
- Supervise workers who:
  - Handle complaints at a telegraph office
  - Admit patients and prepare hospital records
  - Interview people on public issues
  - Give bus schedules information to callers
  - Greet and welcome motorists at highway information centers
  - Take and record reservations at the front desk of a hotel
  - Reserve seat space for passengers on airline flights
  - Sell tickets and check baggage at a railroad station

HOURS OF WORK/TRAVEL

- Some of these jobs may require work during evenings, weekends, and holidays.

SAMPLE PLACES OF WORK

- Airline companies
- Automobile clubs
- Firms that conduct public surveys
- Hospitals
- Hotels and convention centers
- Government agencies
- Motor transportation companies
- Railroad companies
- Telephone and telegraph companies

4516 SUPERVISORS, CORRESPONDENCE CLERKS AND ORDER CLERKS

These people supervise clerks who process orders for products and prepare a company's correspondence. They plan work procedures, prepare work schedules, and see to it that work is completed on time. They assign duties to workers and check their work for neatness, exactness, and conformance to company policies. They resolve worker and customer complaints, prepare work reports, and may help workers complete difficult tasks. They also keep work records and may hire, train, and fire workers.

SAMPLE WORK ACTIVITIES

- Supervise workers who take service orders and handle complaints from phone or water company customers
  - . Watch workers handle service calls to see if they are accurate, polite, and following company policy
  - . Recommend ways to resolve customers' complaints
  - . Spot check order records for accuracy
  - . Answer questions about services
  - . Compile records for accounting purposes
- Supervise workers who prepare classified ads
  - . Review ads and suggest ways to make them more effective
  - . Review customer accounts and approve credit
  - . Edit ads
  - . Train new workers
- Supervise workers who prepare gas and electric-power service orders
  - . Route service orders to service departments and centers
  - . Review completed orders for accuracy and completeness
  - . Answer telephone questions from customers, contractors, and building inspectors about the progress of orders
- Supervise workers who prepare letters and perform other clerical duties in an insurance office
  - . Read correspondence, study policy records, and examine replies prepared by workers
  - . Proofread letters for style, appearance, spelling, and grammar
  - . Return faulty work to workers with instructions for revisions
- Supervise workers who take customer orders for products
  - . Write letters to customers to answer their questions or advise them

HOURS OF WORK/TRAVEEL

- Generally these SUPERVISORS work a standard 35-40 hour week during regular office hours.

SAMPLE PLACES OF OWRK

- Advertising agencies
- Department stores
- Gas, heat, power, and light companies
- Insurance companies
- Newspapers
- Printing and publishing companies
- Telephone companies
- Water companies

4519 SUPERVISORS; RECORDS CLERKS

These people supervise workers who compile, file, and maintain records. This includes workers who shelve library books, rent out safety deposit boxes, keep office records, or code data processing forms. They determine work procedures, prepare work schedules, and see to it that work runs smoothly. They train workers, assign duties, and check work for neatness and accuracy. They prepare reports, handle complaints, adjust errors, and solve difficult work problems. They also may perform duties of the workers they supervise.

SAMPLE WORK ACTIVITIES

- Supervise library workers who replace books and other materials on shelves
  - . Train and direct workers in shelving books according to a library system
  - . Check shelved books to make sure they were put in the proper places
  - . Count the number of materials placed on shelves to record shelving activity
- Supervise workers who rent out safety deposit boxes at a bank
  - . Record the time at which the vault is opened and closed
  - . Authorize the forcing, servicing, and repair of safety-deposit box locks
  - . Approve or disapprove rentals and requests to open safety-deposit boxes
  - . Train new employees and assign them to duties
- Supervise workers who keep central records files
  - . Direct and assist workers in searching files to find lost or missing records
  - . Direct and assist workers in disposing of old files
  - . Recommend changes in work procedures to improve work efficiency
- Supervise workers who compile and maintain personnel records
  - . Compile reports of absences, salaries, and other matters of interest to management
  - . Evaluate work done and return faulty work with instructions for corrections
  - . Conduct periodic job-performance reviews
  - . Assign experienced workers to train new workers
- Supervise workers who to prepare records for data processing
- Supervise workers who prepare and send out customer bank statements and keep check files
- Supervise workers who record securities transactions
- Supervise workers who compute insurance premiums

HOURS OF WORK/TRAVEL

- Generally, these SUPERVISORS keep regular office hours.

SAMPLE PLACES OF WORK

- Banks and other financial firms
- Government agencies
- Insurance companies
- Manufacturing companies
- Private businesses
- Public and private libraries
- Real estate firms

4521 SUPERVISORS; FINANCIAL RECORD PROCESSING OCCUPATIONS

These people supervise workers who compile, review, prepare, and maintain financial and related records for a business. They determine work procedures, prepare work schedules, and see to it that the work goes smoothly. They assign duties to workers and check their work for neatness, accuracy, and conformance to company policies. They help workers handle work problems and may hire, train, and fire workers. They also keep work records, reports, and may perform other duties in addition to supervising workers.

SAMPLE WORK ACTIVITIES

- Supervise workers who:
- Review schedules and records to plan and schedule work activities
- Assign experienced workers to train new workers
- Assign workers to prepare receipts, bills, and reports
- Examine reports and documents for completeness and accuracy
- Help workers solve problems in tracing the sources of billing errors
- Direct the maintenance and storage of records, such as maps, deeds, and agreements
- Talk with supervisors and company representatives to solve problems and resolve complaints
- Direct the preparation of government reports
- Review and approve payroll deductions
- Help workers in the analysis of rate information
- Check payrolls for accuracy
- Review and correct customer accounts
- Examine and correct bookkeeping and accounting entries of other workers
- Prepare shipping documents and related reports

HOURS OF WORK/TRAVEL

- Generally these jobs involvee a standard 35-40 hour work week during normal office hours.

SAMPLE PLACES OF WORK

- Banks and other financial institutions
- Business or industrial firms
- Shipping and water transportation companies

4522 SUPERVISORS; DUPLICATING, MAIL, AND OTHER OFFICE MACHINE OPERATORS

These people supervise workers who operate office machines used to copy material or prepare and handle mail. They may work in the duplicating department or mail room of a business or in a post office. They plan work procedures, prepare work schedules, and see to it that work is completed on time. They assign duties to workers, check their work for neatness and accuracy, and recommend ways to improve work efficiency. They also handle complaints and help workers complete difficult tasks. They may hire and train workers and keep work records.

SAMPLE WORK ACTIVITIES

- Supervise workers in the duplicating department of a print shop

- Study requests for copying service and decide the best method of completing the orders
- Keep files that show the due date and status of job orders
- Examine material in process and suggest improved methods of reproduction
- Oversee machine maintenance program
- Talk with people who need printing services to determine the methods and materials they prefer to be used
- Order materials needed by workers

- Supervise clerks who open, sort, and route mail and prepare material for mailing

- Read letters and determine where they should be sent
- Inform clerks of where to route mail
- Compute the amount of postage required on outgoing mail
- Use a postage meter to compute the cost of mail permits
- Interview job applicants and recommend that persons be hired
- Train new employees
- Keep worker records

- Supervise workers who wrap and address printed material, such as magazines, books, and newspapers

- Revise mailing lists
- Inspect work stations to make sure that material is wrapped and addressed in time to meet delivery schedules
- Record where materials were sent, working from shipping and mailing reports
- Keep a file of bus, train, and airplane schedules and postal mailing rates

- Supervise workers who process mail in a post office

- Keep records of processed mail, mail in process, and changes in worker assignments

HOURS OF WORK/TRAVEL

- Some of these jobs may require some evening or weekend work. Others involve a standard 35-40 hour work week during regular office hours.

SAMPLE PLACES OF WORK

- Any business or industry that handles its own duplicating or copying activities
- Printing and publishing companies
- U.S. Postal Service

4523 CHIEF COMMUNICATIONS OPERATORS

These people supervise workers who operate telephone and telegraph equipment. They work in places such as telephone offices, business firms, and airports. They determine work procedures, prepare work schedules, and see to it that work is properly done. They assign duties to workers, check their work for neatness and accuracy, and recommend ways to improve work efficiency. They also handle complaints and difficult work problems. They may hire, train, and fire workers and keep work records.

SAMPLE WORK ACTIVITIES

- Supervise workers who operate telegraphic typewriters

- Assign duties to workers and watch them send and receive messages

- Direct workers who file letters, messages, instructions, and reports
- Transfer operators to different work stations to insure an even work load
- Supervise workers who operate telephone switchboards at a telephone central office

- Conduct on-the-job training for new operators
- Help operators place unusual types of calls
- Discuss service problems with customers

- Supervise workers who receive and send messages at an airport terminal

- Receive telephone or radio requests for equipment repair
- Phone the proper authorities in case of an emergency, such as a bomb threat
- Record work activities in a log

- Supervise telephone operators in a telephone office or an industrial firm

- Assign switchboard positions to operators
- Keep worker attendance records
- Keep a log of all incoming and outgoing long distance calls
- Compile a plant phone directory
- Relieve operators of their duties, when necessary

HOURS OF WORK/TRAVEL

- Some of these jobs may require shift work and/or weekend work.

SAMPLE PLACES OF WORK

- Airports
- Business and industrial firms
- Telephone and telegraph companies

4524 SUPERVISORS; MAIL AND MESSAGE DISTRIBUTION CLERKS

These workers supervise workers who distribute messages and mail and perform related clerical duties. They determine work procedures, prepare work schedules, and instruct the staff in day-to-day operations. They assign duties to workers and check their work for accuracy and completeness. They also prepare work reports and investigate customer complaints. In some jobs, they are also responsible for maintaining time and personnel records and for hiring, training and firing workers.

SAMPLE WORK ACTIVITIES

- Supervise and coordinate the activities of workers involved in sorting and delivering mail and/or messages
- Determine work procedures
- Prepare work schedules
- Instruct staff in day-to-day operations
- Assign duties to workers and evaluate their work
- Study ways to improve worker performance
- Prepare work reports
- Investigate and resolve customer complaints
- Keep worker records
- Hire, train, and fire workers

HOURS OF WORK/TRAVEL

- Most of these workers have a standard 35-40 hour work week, with no travel required. However, MAIL AND POSTAL CLERK SUPERVISORS may have to work at night or on weekends.

SAMPLE PLACES OF WORK

- Business and industrial firms
- Post offices
- Telephone and telegraph companies

4525 SUPERVISORS; MATERIAL RECORDING, SCHEDULING, AND DISTRIBUTING CLERKS

These people supervise workers receive, store, mark and issue, or ship supplies. They study assignments to determine the workers, materials, and supplies needed to meet work schedules. They assign duties to workers and direct their activities. They also recommend ways to improve work methods and conditions. They may prepare production or other reports, order materials, and check materials received. They may hire, train, and fire workers. They also may perform some or all of the duties of the workers they supervise.

SAMPLE WORK ACTIVITIES

- Supervise workers who:
  - Order, receive, store, issue, and ship materials and supplies in a stockroom, warehouse, or yard
  - Prepare goods for shipment
  - Clean, assemble, and pack supplies and equipment in a hospital central supply room
  - Attach price tags to goods in a retail store
  - Determine rates for shipping goods
  - Prepare duty rosters for airline flight crews
  - Prepare work schedules for telephone company workers
  - Compile production and sales reports
  - Distribute materials and tools to production workers
  - Store, issue, and keep records of ammunition or explosives
- Direct workers to furnish supplies and equipment
- Direct workers to arrange stock and order supplies and equipment
- Check purchase orders and work stations to determine the type and amount of marking tags required for each shipment of goods
- Help workers mark and tag merchandise
- Study shipping rates and routes to find ways to reduce transportation costs
- Plan and prepare work force schedules, using information such as budget estimates and customer demands
- Inspect films being issued to make sure that they are properly packaged and identified
- Dispatch workers to inspect products and check the amounts received
- Review inspection reports and lab tests to make sure that products meet specifications
- Plan the layout of storage areas
- Advise workers on the care of items received and stored
- Keep worker time records for payroll purposes

HOURS OF WORK/TRAVEL

- Many of these jobs may require some night work and overtime, including work on Saturdays, Sundays, and holidays. This is particularly true when shipments have been delayed or when materials are needed immediately on production lines.

SAMPLE PLACES OF WORK

- Manufacturing plants and factories
- Wholesale houses
- Retail stores
- Hospitals
- Utility companies
- Airline companies
- Telephone companies
- Oil refineries and pipeline companies
- Laundry plants

- Ammunition plants
- Textile mills

4528 SUPERVISORS; ADJUSTERS, INVESTIGATORS, AND COLLECTORS

These people supervise workers who do such things as adjust insurance claims, collect overdue payments, or collect money from coin boxes. They plan work activities, prepare work schedules, and see to it that work goes smoothly. They assign duties to workers and check their work for exactness and neatness. They handle worker and customer complaints and prepare work reports. They may keep time and personnel records and oversee preparation of payrolls. They also may hire, train, and fire workers.

SAMPLE WORK ACTIVITIES

- Supervise the activities of workers who make changes to insurance policies
  - Review letters from agents requesting policy changes and assign them to workers for proper action
  - Interpret insurance policies for workers
  - Check the amounts of premiums computed by workers for accuracy
- Supervise workers who collect overdue charge-account payments
  - Review account records to determine which customers are late in paying their accounts
  - Develop form letters to be used in collection attempts
  - Organize the workload of staff, based on the number of late accounts
  - Review letters of complaint from customers and assign them to workers for handling
  - Advise workers on how to handle difficult work problems
  - Recommend changes in policy and procedure to management, based on workflow
  - Talk with or write to customers to explain what action is being taken to resolve their complaints
- Assign workers to collect money from meters, pay phones, or vending machines
  - Count money collected and compute the amount due to agents

HOURS OF WORK/TRAVEL

- Generally, these jobs involve a standard 35-40 hour work week, with little or no travel required.

SAMPLE PLACES OF WORK

- Retail stores
- Business offices
- Insurance companies
- Banks and other financial firms
- Credit card companies
- Vending machine companies

4529 SUPERVISORS, MISCELLANEOUS ADMINISTRATIVE SUPPORT OCCUPATIONS

These people supervise workers who receive, pay out, and/or keep records of money for a business. These workers include bank tellers, cashiers, food checkers, and clerks who prepare purchase orders and receipts. They determine the workers and supplies needed, establish work procedures, assign duties. They hire and train new workers, explain company policies, and enforce rules. They resolve customer and worker complaints. They count and deposit money received, keep accounts and other records, and authorize payments. They also handle complaints and other problems and may perform some or all of the duties of the workers they supervise.

SAMPLE WORK ACTIVITIES

- Supervise workers who receive, pay out and keep records of money in a bank
  - Train workers in customer service and banking procedures
  - Approve checks for payment
  - Resolve customer complaints
  - Use an adding machine to balance tellers' reports
  - See to it that enough money is on hand to meet legal and business demands
- Supervise workers who receive payments for goods or services in a store, hotel, or similar place
  - Relieve workers during peak work periods
  - Search records to help workers locate and correct errors on customers' bills
  - Compare cash register totals with receipts in the register
  - Keep custody of operating funds
  - Total funds received, endorse checks, and prepare bank deposit slips
- Plan and supervise the activities of food checkers and cashiers in a large food-service business
  - Establish food-checking stations to support dining rooms, bars, clubs, and social functions
  - Hire and train workers
  - Watch food-checking, billing, and cashiering activities
  - Compile reports for accounting and management purposes
- Supervise workers who accept payments for gas and electric-power bills
- Supervise clerical workers in the field office of a construction project
- Supervise workers in the purchasing-and-claims department of a ferryboat service
- Supervise workers who type letters, prepare purchase orders, and obtain price quotations

HOURS OF WORK TRAVEL

- Some of these SUPERVISORS may work evenings or on Saturdays.

SAMPLE PLACES OF WORK

- Banks
- Hotels and restaurants
- Retail stores, including grocery and department stores
- Race tracks
- Utility companies
- Construction companies
- Water transportation companies

46-47 ADMINISTRATIVE SUPPORT OCCUPATIONS, INCLUDING CLERICAL

These workers perform jobs to help a business or organization run smoothly. They work as bank tellers, hotel clerks, or correspondence clerks. They operate office machines for financial recordkeeping or duplicating. Some interview people to complete forms while others maintain information in files. Some process library materials or examine insurance claims. Others may collect debts or work as inventory clerks.

461 COMPUTER AND PHERIPHERIAL EQUIPMENT OPERATORS

Workers in these occupations operate and tend computers or the equipment that issued with computers. They may read programmers' instructions and set up a computer run. Or they may operate the machinery that loads the computers, the printers, and the equipment used for computer output. They may be responsible for card-to-tape machines, card sorters, and collators. They watch for problems with the computer or peripheral equipment and try to solve those problems.

4612 COMPUTER OPERATORS

COMPUTER OPERATORS control and tend computers used to process business, scientific, engineering, and other data. They read special instructions prepared by PROGRAMMERS and decide what computer equipment should be set up for each job. To process the input, they first load the computer with the correct cards, tapes, or disks, and then they start the computer. While it is running, they watch for error lights or other signals that indicate problems. When problems occur, they may locate and solve them or stop the program.

SAMPLE WORK ACTIVITIES

- Follow instructions for operating a computer
- Set control switches on computer equipment
- Select tapes and punchcards and load them into the computer
- Move switches to clear computer systems and start computers
- Watch machines and control panels for error lights
- Type commands into computer consoles
- Notify a supervisor when errors occur
- Wire control panels of equipment

HOURS OF WORK/TRAVEL

- COMPUTER OPERATORS may work day, evening, or night shifts, as many organizations use their computers 24 hours a day.

SAMPLE PLACES OF WORK

- Manufacturing firms
- Wholesale and retail trade companies
- Banks
- Government agencies
- Insurance companies
- Companies that provide data processing services for a fee
- Computer centers in colleges and universities

4613 PERIPHERAL EQUIPMENT OPERATORS

PERIPHERAL EQUIPMENT OPERATORS operate machines that are used along with computers. These machines include devices used to load data into computers, (such as tape drives and disk drives), as well as printers and other devices used to retrieve computer output. Also included are stand-alone equipment, such as card-to-tape machines, card sorters, and collators (machines that arrange material in a certain order). These workers set up and adjust these machines, load and unload input cards or tapes, and unload and sort computer output such as cards or printouts.

SAMPLE WORK ACTIVITIES

- Tend a machine that sorts computer cards into groups
- Place cards in a feedbox and push buttons on a control panel to sort them
- Remove sorted cards from bins
- Remove jammed cards to clear a sorting machine
- Mount reels of magnetic tape onto spindles
- Set guides, keys, and switches to prepare machines for operation
- Wire control panels according to a diagram
- Watch computer cards in a machine for signs of creases or tears
- Unload cards from a machine and label them
- Separate and sort printed output forms, using a special machine
- Operate machines that process data from punched cards into printed records
- Install a control panel, using wrenches and a screwdriver
- Tend machines that copy printed material or punched cards
- Tend machines that remove carbons from printout sheets and separate the sheets

HOURS OF WORK/TRAVEL

- As computer centers in many organizations operate 24 hours a day, **PERIPHERAL EQUIPMENT OPERATORS** may work day, evening, or night shifts.

SAMPLE PLACES OF WORK

- Manufacturing firms
- Wholesale and retail trade companies
- Banks
- Government agencies
- Insurance companies
- Companies that provide data processing services for a fee
- Computer centers in colleges and universities

462 SECRETARIES, STENOGRAPHERS, TYPISTS

Workers in these occupations take dictation, type, and perform other duties to run an office. They may record and type letters, reports, and other information. They may run other office equipment, do filing, receive callers, and make appointments. Some workers answer letters, write reports, and do research. Some specialize in medicine, law, or science. Some supervise other workers.

4622 SECRETARIES

SECRETARIES set appointments, deal with callers, take dictation, and type. In offices where typing is done in word processing centers, they often handle a number of other duties. These duties range from filing, routing mail, and answering the phone to more responsible work such as answering letters, doing research, and writing reports. Some **SECRETARIES** specialize in a certain area, such as medicine, law, science, or education. Some supervise a clerical staff.

SAMPLE WORK ACTIVITIES

- Compose and type routine letters
- Keep an inventory of office supplies
- Look through law books to find court decisions that pertain to cases your employer may be handling
- Type medical charts, reports, and letters
- Send bills to patients
- Welcome new members to an organization and issue membership cards
- Receive and deposit funds for lunches, school supplies, and student activities
- Read scripts and prepare notes for each scene in a play
- Send invitations and arrange for food service for a business or social dinner

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Banks, insurance companies, real estate firms, government agencies, and other places that provide services to the public
- Doctors', lawyers', and other professional offices
- Any industry

4623 STENOGRAPHERS

STENOGRAPHERS take dictation of letters, reports, and other worded materials. They may take dictation using either shorthand or a stenotype machine that prints symbols as certain keys are pressed. Experienced **STENOGRAPHERS** can take difficult dictation. For example, they may sit in on meetings or proceedings and later give reports or word-for-word records of what was said. Some specialize in taking dictation in foreign languages. Others work for business people who travel.

SAMPLE WORK ACTIVITIES

- Use a shorthand machine to record everything that is said in a meeting
- Transcribe dictation on a special typewriter that produces punched cards or tape
- Use a typewriter to transcribe dictated material and prepare metal plates used in an addressing machine
- Dictate notes into a recording machine for other workers to transcribe
- Listen to a taped recording and type what is heard

HOURS OF WORK/TRAVEL

- Most **STENOGRAPHERS** work 35-40 hours per week during regular office hours.
- A few of these jobs may require some travel, but most do not.

SAMPLE PLACES OF WORK

- Banks
- Insurance companies
- Government agencies and other establishments that provide services to the public
- Doctors', lawyers' and other types of professional offices
- Various businesses and organizations

4624 TYPISTS

TYPISTS make typed copies of handwritten, printed, and recorded words. They may do other office tasks, such as answering the phone, filing, and running office machines. They may plan and type tables, prepare reports using many source materials, and make master copies of reports to be reproduced. They may listen to a recording and type what is heard.

SAMPLE WORK ACTIVITIES

- Type reports, business letters, and shipping tickets from handwritten copy
- Add numbers on an adding or calculating machine
- Listen to a tape and type what is heard
- Keep records and files of completed work
- Make copies of completed work, using a copying machine
- Sort and distribute mail and answer the phone
- Check totals on report forms or bills
- Watch a movie and type a brief description of each scene

HOURS OF WORK/TRAVEL

- TYPISTS frequently are able to obtain part-time work.

SAMPLE PLACES OF WORK

- Factories
- Banks, savings and loan companies, and other financial firms
- Insurance companies
- Real estate firms
- Federal, state, and local government agencies
- Motion picture studios
- Television stations
- Hotels, motels, and restaurants
- Hospitals, clinics, and doctors' offices
- Lawyers offices
- Any industry

463 GENERAL OFFICE OCCUPATIONS

People in these jobs do general clerical work. They type, file, record information, answer the phone, and perform other similar tasks that help an office run smoothly.

SAMPLE WORK ACTIVITIES

- Answer the phone, deliver messages, and run errands
- Count, weigh, or measure materials
- Sort and file records
- Stamp or number forms by hand or machine

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- Prepare and send out bills, policies, invoices, and checks
- Operate office machines such as typewriters, adding machines, and copiers
- Post charges to service accounts
- Operate a telephone switchboard to take or relay information
- Schedule appointments
- Compute and record payment of fees

HOURS OF WORK/TRAVEL

- Generally these jobs do not require travel.
- Most of these jobs involve a standard 35-40 hour work week. However, evening and weekend work may be required in some jobs.

SAMPLE PLACES OF WORK

- Companies that provide transportation
- Schools and colleges
- Federal, state, and local government agencies
- Telephone and telegraph companies
- Financial firms, such as banks and savings and loan companies
- Hospitals, clinics, and doctors' offices
- Nonprofit organizations, such as animal shelters
- Police stations
- Business offices

464 INFORMATION CLERKS

These workers gather and provide information. They may interview people in order to complete forms or records. They may work in hotels, helping guests check in or out, and insuring good service. Others help plan travel routes, make reservations, and issue tickets. Some answer questions about insurance, stock prices, mortgage requirements, or other things. Some help people complete transactions, listen to complaints, write letters, or perform other clerical tasks.

4642 INTERVIEWING CLERKS

INTERVIEWING CLERKS talk to people to get information that is needed to complete forms or records. They may talk to people in person or by phone. They ask specific questions of people, record their answers, and help people fill out forms. Some also sort, classify, and file completed forms.

SAMPLE WORK ACTIVITIES

- Talk with hospital patients to find out their names, addresses, and ages
- Set up times for people to be examined at a clinic
- Call credit bureaus, employers, and personal references to check people's credit standing
- Talk with people to learn about their buying habits or opinions
- Keep records of deposits and payments and phone customers who have not paid their accounts on time
- Interview people who want to open a checking account and record the information they provide onto forms
- Talk with people to find out about their work problems
- Phone job applicants to offer them jobs

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Medical centers, such as hospitals or clinics
- Federal, state, and local government agencies
- Nonprofit organizations, such as rehabilitation centers
- Any large business or store that has charge accounts
- Banks and loan companies
- Public opinion survey firms

4643 HOTEL CLERKS

HOTEL CLERKS register guests, assign them to rooms, and issue them their room keys. They also give out mail and messages, answer questions about hotel services, keep guest records, prepare bills, and collect payments. They may sell items such as candy or newspapers and deposit items for guests in the hotel safe.

SAMPLE WORK ACTIVITIES

- Assign hotel guests to rooms and instruct bellhops to help them with their luggage
- Sort and stack incoming mail and messages
- Give and receive messages by phone, switchboard, or teletype machine
- Keep records of which rooms are available
- Make and confirm reservations
- Sell tobacco, candy, and newspapers
- Deposit guests' valuables in a hotel safe

HOURS OF WORK/TRAVEL

- Many of these jobs require evening or night work.
- Some of these jobs may involve shift work.

SAMPLE PLACES OF WORK

- Hotels
- Motels
- Motor lodges
- Resorts

4644 RESERVATION AGENTS AND TRANSPORTATION TICKET CLERKS

These CLERKS help people who travel. Some plan travel routes and schedules and obtain reservations for people on planes, trains, buses, or boats. They also do such things as plan auto trips, prepare travel information, reserve hotel rooms, and issue travel tickets. Others help passengers safely board the correct train or plane.

SAMPLE WORK ACTIVITIES

- Plan travel routes and figure out ticket costs, using schedules and rate books
- Answer questions about travel schedules and places to stay
- Prepare travel booklets that contain tickets, schedules, and travel suggestions
- Plan trips for members of auto clubs
- Inform people about the need for visas and other documents required for foreign travel
- Provide people with guides, directories, brochures, and maps
- Check plane tickets to make sure passengers have the right flight or seat
- Assign train space to passengers

HOURS OF WORK/TRAVEL

- Some of these jobs may involve shift work.
- Some of these jobs require evening or night work.

SAMPLE PLACES OF WORK

- Travel agencies
- Airline and steamship companies
- Bus and train companies
- Hotels
- Government agencies

4645 RECEPTIONISTS

RECEPTIONISTS are often the first person callers see when they visit a place or organization. They greet customers or visitors, determine their needs, and refer them to people who can help them. Their daily duties depend upon where they work. Those in medical offices, may obtain information from patients. In beauty shops, they set up appointments. In large businesses, they give ID cards to callers and arrange for escorts. Many RECEPTIONISTS also do other things, such as type, answer the phone, file and sort mail.

SAMPLE WORK ACTIVITIES

- Obtain callers' names and arrange for appointments with persons they wish to see
- Record the names of callers, the times they visited, the nature of their business, and the persons called upon
- Collect and distribute mail and messages
- Issue passes to visitors
- Phone clients to remind them of their appointments
- Give travel information to bus or train passengers
- Greet visitors to a military base, and record their names, home addresses, and the times they arrived
- Caution park visitors about fires, wild animals, and travel hazards

HOURS OF WORK/TRAVEL

- A few of the jobs may require evening or weekend work.
- Generally, these jobs do not require travel.

SAMPLE PLACES OF WORK

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- Doctors' and dentists' offices
- Hospitals and nursing homes
- Insurance companies
- Banks

- Factories and plants
- Transportation companies
- Military bases
- Historical societies
- Any place that is open to the public

4649 INFORMATION CLERK, N.E.C.

These CLERKS provide information and assistance to customers. They answer people's questions about such matters as insurance, stock prices, travel services or mortgage requirements. They may answer questions by phone or letter or in person. Some assist people in completing transactions such as overseas phone calls, loan applications, or room reservations. Some receive and answer complaints of callers. They also may compile information, write letters, fill out forms, and perform other clerical duties.

SAMPLE WORK ACTIVITIES

- Take phoned-in requests for information about credit applicants
  - Identify callers by a code
  - Type inquiry details on the keyboard of a machine
  - Read information from computer printouts or displays
- Check the accuracy of loan applications
  - Prepare a file for each loan transaction in a bank
  - Compare applications for loans against credit reports
  - Approve loans and prepare checks
  - Prepare insurance records, credit reports, and copies of loan applications
  - Prepare payment books and mail them to customers
- Complete mortgage transactions after loans have been approved
  - Check loan papers for completeness
  - Answer buyers' and sellers' questions about the details of the transactions
  - Get buyers and sellers to sign necessary documents
  - Operate office machines to compute figures
- Answer phoned-in questions about the activities and programs of an auto club
  - Receive and record complaints about road conditions
  - Help prepare traffic surveys
  - Tell callers about car insurance and financing
- Contact operators in other countries to place international calls
- Answer phone calls from customers who want information about the stock market
- Provide travel information to tourists at a state information center
- Write letters to answer questions about fishing and hunting regulations
- Answer requests for information about insurance policies

HOURS OF WORK/TRAVEL

- Generally, these CLERKS keep regular office hours.

SAMPLE PLACES OF WORK

- Automobile clubs
- Banks and other financial firms
- Government agencies
- Hotels and convention centers

- Information service firms
- Railroad and other transportation companies
- State land offices
- Telephone companies

466 CORRESPONDENCE CLERKS AND ORDER CLERKS

Workers in these occupations help customers place ads, order products, or settle problems. They may help customers write ads for newspapers or magazines. Or they may process requests for products. They inform customers of availability, costs, and shipping dates. Some clerks handle letters and calls from customers who want information, have complaints, or request special orders. Clerks fill out forms, take payments, write receipts and keep records.

4662 CLASSIFIED AD CLERKS

These CLERKS take orders for ads and help prepare the ads to be printed in a newspaper, magazine, or some other publication. Some talk with customers to find out what words they want in ads and when they want the ads to appear in print. They use a rate schedule to figure out the costs of the ads. They also fill out order forms, take payments, write receipts, and keep order records. Others help space and arrange ads on pages or check current ads to see how many more days they should be run.

SAMPLE WORK ACTIVITIES

- Talk with customers on the phone or in person to take orders for classified ads
- Figure out the total charges for ads and collect payments from customers
- Measure and draw outlines of ads on dummy copy sheets, using a pencil and ruler
- Arrange ads on sheets so that those of competing customers do not appear on the same page
- Mark ads that have expired and note the number of days others should run
- Figure out the total number of lines available for new ads

HOURS OF WORK/TRAVEL

- CLASSIFIED AD CLERKS who prepare copy may be required to work late at night and on weekends.

SAMPLE PLACE OF WORK

- Newspaper companies
- Magazine companies
- Advertising companies

4663 CORRESPONDENCE CLERKS

CORRESPONDENCE CLERKS answer letters concerning such matters as requests for goods, special orders, damage claims, credit information, incorrect billings, and poor service. They read incoming mail and gather information needed to make replies. They may type or dictate a reply, prepare a form letter, or send the customer's letter to the appropriate person or department for a reply. Some also keep files of letters sent, received, or requiring further action.

SAMPLE WORK ACTIVITIES

- Answer a letter about a damage claim or an incorrect billings
- Obtain the records needed to answer a request for information
- Draft and type letters to customers to let them know that their letters were received and their requests are being processed
- Attach information to customers letters for replies by other workers
- Send letters to other departments for replies
- Keep files of letters received, sent, and requiring further action
- Prepare reports of letters processed

HOURS OF WORK/TRAVEL

CORRESPONDENCE CLERKS generally work from 35-40 hours a week, during regular office hours.

SAMPLE PLACES OF WORK

- Any business, firm, or industry that receives large amounts of mail from the public or from customers

4684 ORDER CLERKS

ORDER CLERKS process requests from customers or company employees for products, services, or materials. They may receive orders by mail, phone, order form, or directly from people. In some cases, they phone or write to people to inform them of prices, shipping dates, delays, or other information about their orders. They may send orders to departments to be filled and follow up on orders to make sure of prompt delivery. Some help prepare written contracts for goods or handle service orders and complaints.

SAMPLE WORK ACTIVITIES

- Sort orders into groups for delivery to service centers
- Quote freight rates and give information on truck arrivals to trucking firm customers
- Talk with people by phone or in person to take orders for products, services, or materials
- Receive and record requests from auto club members for emergency road service
- Fill out service cards or product order forms
- Answer phoned-in reports of gas leaks and arrange for service crews to be dispatched
- Process mailed in orders for merchandise
- Issue route slips to truck drivers who pick up donated clothing and furniture
- Receive and process requests from hospitals for blood
- Review incoming orders for completeness
- Contact customers to get needed information
- Keep records of services provided to customers

HOURS OF WORK/TRAVEL

ORDER CLERKS generally work from 35-40 hours per week, during regular office hours.

SAMPLE PLACES OF WORK

- Light, heat, and power companies
- Telegraph and telephone companies
- Companies that repair or install electrical equipment
- Printing and publishing companies
- Department stores
- Nonprofit organizations, such as Goodwill and the Salvation Army
- Medical service firms, such as blood banks

- Any business that delivers goods or customer services

469 RECORD CLERKS

These workers compile information, file it properly, and make it available to others. They may gather or verify information for employee records, noting work history or skills. They may work as file clerks, classifying and sorting documents and materials, then retrieving them for other workers to use. Others work in libraries and shelve books, check books in and out for users, or process new materials. Some workers process balloting information or financial records.

4692 PERSONNEL CLERKS EXCEPT PAYROLL AND TIMEKEEPING

PERSONNEL CLERKS gather and file information on the training, skills, job duties, work history, and traits of a firm's employees. They also may compile and type reports from worker records. Many have other duties as well. They may prepare and mail forms or letters, act as receptionist, or check job applicants' references.

SAMPLE WORK ACTIVITIES

- Keep records of the selection and placement of workers in civil service positions
- Mail out application forms
- Answer applicants' questions about salaries and benefits
- Check applications to make sure they are complete and accurate
- File application forms, test papers, and records
- Record information on file cards
- Type reports and forms
- Talk with job applicants to get information such as work experience, education, training, and interests
- Call applicants for jobs to tell them that they have been accepted or rejected
- Compile personal information about the families of military workers
- Write to references to find out about an applicants' social and moral background
- Photograph or fingerprint new workers
- Keep insurance records on employees
- Record information on workers such as name, address, earnings, absences, and amount of sales
- Compile detailed bills for services received by hospital patients

HOURS OF WORK/TRAVEL

- Generally, these workers have a standard 35-40 hour workweek.

SAMPLE PLACES OF WORK

- Finance, insurance, and real estate firms
- Manufacturing companies
- Federal, state, and local government agencies
- Any business or industry that has a large number of employees
- Hospitals

4694 LIBRARY CLERKS

LIBRARY CLERKS do many of the routine tasks involved in running a library. They help librarians order and organize materials and make it easier for patrons to find and check out materials. They check books in and out, sort and shelve library materials, repair damaged books, and answer routine questions. They may keep files of special materials. They may help in the buying and processing library materials or drive bookmobiles to take library materials to patrons in different areas of a town.

SAMPLE WORK ACTIVITIES

- Select talking books to be mailed to blind patrons
- Prepare books for mailing
- Drive a bookmobile or special truck over an assigned route to take library books to patrons
- Place books and magazines on shelves
- Stamp dates on library cards and file cards
- Collect fees for overdue books
- Compile reports of the number of books issued and the amount of fines collected
- Register library patrons to permit them to borrow books
- Tend a microfilm machine that records information about borrowers and items issued to them
- Check issue cards to see what books are overdue and who has them
- Type notices to let borrowers know items are overdue
- Issue books, films, and recordings
- Inspect returned books for damage
- Find books and other materials for patrons
- Use mending tape, paste, and a brush to repair books
- Answer phoned-in inquiries about books and services
- File cards in card[illegible] drawers
- Replace borrowed [illegible]rials in stacks or files
- Truck or carry materials between shelving areas and the issue desk

HOURS OF WORK/TRAVEL

- LIBRARY CLERKS who work in government or other special libraies usually work a regular 40-hour week.
- In public, college, and university libraries, LIBRARY CLERKS may work weekend and evening hours.
- In elementary and high schools, LIBRARY CLERKS work regular school hours.

SAMPLE PLACES OF WORK

- Public libraries
- Large companies or businesses that have libraries
- Colleges and university libraries
- Public school systems libraries
- Private libraries
- Federal government, especially in the Department of Defense and the Library of Congress

4696 FILE CLERKS

FILE CLERKS keep office records accurate, up-to-date, and properly placed. They classify, store, update, and find office materials on request. They examine new materials and store them for future use according to a system. When these records are requested, they locate them for the borrower. They also keep records of materials removed from the files and make sure they are returned. In small offices, they often do other things, such as type, sort mail, or run office machines.

SAMPLE WORK ACTIVITIES

- File letters, cards, invoices, and other records by letters of the alphabet
- Read incoming material and sort it according to a filing system
- Place materials in file cabinets, drawers, boxes, or in special filing cases
- Search for information contained in files
- Remove material from files when requested
- Trace missing file folders
- Type file folder labels
- Mark or stamp codes on material
- Classify fingerprints and record and file information about them
- Clip out articles and pictures in newspapers and file them for future use
- Keep files of yarns for stock reference
- Store bank records and see that outdated records are destroyed
- Keep files of taped material in a library

HOURS OF WORK TRAVEL

- Most FILE CLERKS have a standard 35-40 hour work week.
- Many of these jobs offer opportunities for part-time work.

SAMPLE PLACES OF WORK

- Any large office or business that keeps files or records, but especially:

  . Banks and finance companies

4699 RECORDS CLERKS, N.E.C.

These people compile, record, file, or check information needed for a variety of purposes. Some workers record information on insurance policies. Others check school records to see whether students are eligible to graduate, or some may count ballots and prepare official records. Some keep records of deliveries to customers, compile financial records, weather charts, or train schedules.

SAMPLE WORK ACTIVITIES

- Compute refunds on insurance policies, using a calculator, adding machine, and rate tables
- Examine students' academic records to see whether they are eligible for graduation
- Interview fishermen to compile information about methods and fishing locations
- Count voting ballots and prepare official reports of election results
- Compile records of the number of newspapers or magazines delivered to each city carrier or dealer
- Convert information obtained from records and reports into codes for processing by keypunch units
- Keep records of suggestions received by a committee
- Keep records of credit cards reported lost by customers
- Compile information about service calls to power company customers
- Record information about products to be returned to a manufacturer because of defects or incorrect deliveries
- Sort forms, letters, checks, receipts, and bills for filing or mailing
- Compile data to help a trust department in a bank settle estates and accounts that are under probate
- Compile records about stock and bond transactions
- Compile daily stock market quotations
- Prepare and keep records of savings deposits and withdrawals in a bank
- Compile records of phone company customers' changes of address and services
- Record the time each train arrives and departs from a train station
- Check the accuracy of insurance company records
- Keep record of money, valuables, and other articles taken as evidence in criminal cases
- Compile credit information on people
- Compile information on patients' diets for use by hospital staff
- Assemble weather charts and bulletins for use in making air flight plans

- Collect military intelligence information from maps, charts, briefings, and reports
- Tag and arrange articles for sale at an auction

HOURS OF WORK/TRAVEL

- These people work in a wide variety of industries. Work hours and travel requirements vary. However, many of these jobs typically involve a standard 35-40 hour work week.

SAMPLE PLACES OF WORK

- Insurance companies
- Schools, including colleges and universities
- Government agencies
- Printing and publishing companies
- Retail stores
- Light, heat, and power companies
- Banks and other financial institutions
- Hospitals and clinics
- Telephone companies
- Wholesale trade firms
- Airline companies
- Any industry

471 FINANCIAL RECORD PROCESSING OCCUPATIONS

These workers operate machines that compute and record financial information for a company. They may operate machines that total bills, print invoices, or check inventories. They may run bookkeeping machines that account for monies paid into or out of a firm. Others operate payroll machines and compute wages for workers. They may calculate weights and shipping rates, transfer securities, or compile financial records.

4712 BOOKKEEPERS AND ACCOUNTING AND AUDITING CLERKS

These CLERKS compute and record numerical data (information) to keep sets of financial records complete, current, and accurate. They keep business and account records and may compile reports that show all money received and paid out by a firm. They work with business records, such as invoices, ledgers, vouchers, and bank balances. They use adding machines, calculators, and other business machines to total lists of figures and to compute interest, payroll, or other figures.

SAMPLE WORK ACTIVITIES

- Audit time and material charges on work orders
- Keep accounting records and prepare reports for banks, businesses, power companies, government offices, or other firms
- Keep current records of funds on deposit in foreign banks
- Check the accuracy of figures recorded by other workers
- Compile credit card data from vouchers and compute charges and payments due
- Compile reports for bank examiners who audit accounts
- Compile and maintain records of a firm's stock and bond transactions
- Receive and process checks, drafts, and coupons at a bank
- Keep records of mortgage loans in a loan firm
- Compute the interest and principal payments on loans
- Send checks, drafts, and other items to a clearinghouse for exchange and settlement with other banks
- Keep records of stocks, bonds, trust deeds, and mortgages held by a bank
- Compute interest on loans, notes, and bonds
- Return unpaid checks to customers or other banks so that accounts can be adjusted and balanced

- Total and balance checks received at a bank
- Keep records of dividends on insurance policies
- Compile data to figure the cost of lost or damaged goods carried by a railroad
- Count and record the number of betting tickets cashed at a race track
- Calculate the weight of ships' cargo to compile reports used in assessing tariffs
- Compile reports on the value of properties acquired by a bank through forclosure of loans

HOURS OF WORK/TRAVEL

- These clerks generally keep regular office hours.

SAMPLE PLACES OF WORK

- Business firms
- Schools
- Hospitals
- Nonprofit organizations
- Government agencies
- Banks and other financial firms
- Insurance companies

4713 PAYROLL AND TIMEKEEPING CLERKS

PAYROLL AND TIMEKEEPING CLERKS keep records of the times people work and the wages they earn. They add up work hours from timesheets and other records and figure out the wages earned by workers. They may keep daily records of the times workers arrive at and depart from work. They use calculators and posting machines to compute and record hours worked, earnings, deductions, net wages, and other information. They enter this and other information onto record cards, check stubs, and payroll sheets.

SAMPLE WORK ACTIVITIES

- Use a posting machine to record flight times and mileage flown by flight officers
- Compile workers' time and production records
- Compute the total time worked by employees
- Calculate the time worked and the units produced by piece-work workers
- Compile payroll data from timesheets and other records to prepare computer input forms
- Enter wage data onto payroll records
- Keep records of sick leave pay
- Keep records of goods produced by groups of workers
- Enter net wages on earning record cards, checks, check stubs, and payroll sheets

HOURS OF WORK/TRAVEL

- Generally, these workers have a standard 35-40 hour work week.

SAMPLE PLACES OF WORK

- Any business or industry that must prepare payrolls

4715 BILLING CLERKS

BILLING CLERKS prepare invoices or bills for goods and services provided to customers by a business or firm. They look at purchase and shipping records to see what goods or services were delivered and then use price lists or rate tables to find the costs of these items. They total the charges and prepare detailed bills to be sent out to customers. They also may prepare reports on accounts.

SAMPLE WORK ACTIVITIES

- Review bills of lading and other shippings records to find the amount of goods shipped
- Type the name of the shipper, and the weight, destination, and costs of goods on forms
- Keep files of items received from or returned to vendors
- Use an adding machine to total the costs of goods shipped to customers
- Record savings balances and loan information onto people's bank account records
- Figure out the service charges for bank services
- Type invoices that list the items sold, amounts due, credit terms, and date of shipment
- Total and record the amount of money collected on A COD route
- Prepare final bills for mailing to electric power customers

HOURS OF WORK/TRAVEL

- Generally, these workers have a standard 35-40 hour work week.

SAMPLE PLACES OF WORK

- Any business or industry
- Bank and finance companies
- Manufacturing companies
- Government agencies
- Public utilities
- Railroad companies
- Companies that ship parcels or freight

4716 COST AND RATE CLERKS

These **CLERKS** compute costs and calculate rates for goods, services, and the shipment of goods. They study vouchers, rate tables, billing statements, and other records to compile information needed to compute costs or rates. They use adding machines and calculators to total lists of figures and compute rates and charges. They may prepare charts, graphs, or reports that describe their findings.

SAMPLE WORK ACTIVITIES

- Compile reports to make sure that shipping companies are asked to pay the correct harbor fees
  - . Compare information on statements, records, and reports with a ship's manifest
  - . Calculate the amount of tariff, based on the ship's manifest
  - . Prepare reports of findings
  - . Inspect sheds and warves to determine repairs needed
  - . Read service meters to determine charges to be made
- Study existing freight rates and tariff laws and recommend changes in the rate practices of an air-, water,-rail-, or motor-freight company

- Study proposals for changes in rates, rules, or regulations received from shippers or carriers
- Review existing regulations and decisions that govern rates
- Compile rate-manual sections that cover items such as handling costs, fuel costs, and classes of freight
- Prepare revised rate schedules
- Advise shippers and carriers of revised rates

- Provide rate information to passengers traveling on motor trips

- Talk with customers to get information on proposed trips
- Study maps to select and measure travel routes
- Use a rate table to gather rate information based on type of vehicle, distance, toll costs, and other factors
- Compute rates, using a calculator

- Compile and compute freight rates, passenger fares, and other charges for transportation services

- Classify freight according to a rate-book description
- Calculate and record storage and redelivery charges
- Answer mail or phone inquiries from shippers regarding rates, routing, packing, and other matters

- Check and revise freight and tariff charges on bills for freight shipments
- Review gas or electric power rates to see if they conform to regulations

- Review reports and rate assignments for completeness and accuracy
- Review special rate accounts to determine charges that will benefit customers
- Compile information for reports on costs, revenues, and amount of gas or electricity used
- Draw graphs and charts that show changing trends

- Compute duties, tariffs, and weight and price information for imported or exported goods

- Convert foreign money figures into U.S. money figures, using rate charts

- Examine vouchers sent to an insurance carrier by doctors and approve or disapprove payments
- Calculate the amount of charges to be made for various types of insurance
- Count the number of words in telegrams and compute customer charges
- Compile production or sales cost reports for departments in a business
- Prepare reports of the labor and equipment costs of loading and unloading ship cargoes

HOURS OF WORK/TRAVEL

- COST AND RATE CLERKS generally keep regular office hours.

SAMPLE PLACES OF WORK

- Water freight companies
- Air freight lines
- Motor freight lines
- Railroad freight lines
- Light, heat, and power companies
- Import/export firms
- Insurance companies
- Telephone companies
- Nonprofit organizations

4718 BILLING, POSTING, AND CALCULATING MACHINE OPERATORS

These people operate machines used by firms to record information, determine bills and inventories, and do math calculations. Some workers prepare customer statements. The machine then computes the balances and required payments. Others record a firm's money matters on a bookkeeping machine that calculates balances and produces summary reports. In other jobs, workers use adding machines or calculators to compute payrolls and invoices and do other statistical work.

SAMPLE WORK ACTIVITIES

- Sort documents to be posted, such as checks and debit items
- Type on a bookkeeping machine to record a firm's money transactions
- Operate a machine similar to a cash register to compute restaurant patrons' bills for food and beverages
- Compile and compute freight and passenger charges
- Use a comptometer to compute railroad freight charges
- Operate a billing machine to prepare bills, statements, and invoices to be sent to customers
- Copy information from office records
- Post figures from adding machine tapes onto records
- Use an auditing machine to add sales slip totals
- Press keys and move levers to feed data into a calculating machine
- Tend a machine that computes the volume of gas flowing through a meter
- Operate a proof machine to sort and record bank transactions

HOURS OF WORK/TRAVEL

- Most of these workers keep regular office hours. However, those who work in hotels and restuarants may work during evening and weekend hours.

SAMPLE PLACES OF WORK

- Banks and other financial firms
- Insurance companies
- Wholesale and retail stores
- Hotels and restaurants
- Railroad and other transportation companies
- Firms that specialize in preparing bills
- Gas, light, water, and other utility companies

472 DUPLICATING, MAIL, AND OTHER OFFICE MACHINE OPERATORS

These workers run machines that copy documents, calculate financial data, or perform other tasks in a business office. They may run machines that collate information, process checks, calculate bills and print statements, count money, or emboss metal addressing plates. Workers must set up machines and adjust the controls. They may load the machines or feed such materials as paper, glue, or coins into machines during operation.

4722 DUPLICATING MACHINE OPERATORS

These people operate or tend equipment that can copy documents such as letters, bills, drawings, and invoices. The machines they use include mimeograph, stencil, and copying machines. They keep the machines loaded with paper and see that they are set up for the proper numbers and sizes of copies to be made. They also may collate the copied pages of lengthy documents, by hand or using machine.

SAMPLE WORK ACTIVITIES

- Load paper into feed trays
- Adjust machines for speed, size of paper, and flow of ink
- Keep records of the number of copies made
- Place master copies on the drum of a duplicating machine
- Use an offset-duplicating machine to make copies of charts, schedules and bulletins
- Turn a handwheel and ink fountain screws to control the flow of ink in a copier
- Select paper stock for color, size, or thickness
- Clean and file master copies or plates
- Lock paper in a clamping frame on a copying machine
- Write page numbers or titles on copies of Braille-embossed pages
- Tend equipment that photographs deeds, bills, and checks

HOURS OF WORK/TRAVEL

- DUPLICATING MACHINE OPERATORS typically work from 35-40 hours per week, during normal office hours.

SAMPLE PLACES OF WORK

- Banks
- Insurance companies
- Wholesale and retail stores
- Firms that specialize in providing business services, such as preparing bills, mailing circulars, and copying and collating records and reports
- Schools, colleges and universities
- Any business or industry that requires large amounts of material to be copied

4723 MAIL PREPARING AND HANDLING MACHINE OPERATORS

These workers operate and tend machines used to open incoming mail and to prepare bills and letters for mailing. Some of the machines fold and insert enclosures. Others address, seal, and stamp envelopes. The OPERATORS set up, load, and control these machines. They also may remove processed items from the machines and stack them.

SAMPLE WORK ACTIVITIES

- Operate a machine used to print addresses and code numbers on envelopes, accounting forms, and packages
- Position plates, stencils, or tapes in a machine
- Place articles to be addressed in a loading rack
- Adjust the flow of ink in a machine unit
- Use a wrench and pliers to set machine steps and selections
- Use a typewriter or embossing machine to make corrections on plates used to address mail
- Keep files of addressing plates
- Tend a machine that folds ads, forms, letters, or other paper sheets
- Turn knobs to adjust folding rollers, side guides, and stops in a folding machine
- Tend a machine that inserts printed matter into folders or envelopes
- Stack inserts into machine feedboxes
- Tend a machine that seals envelopes
- Tend a machine that attaches address labels to ads
- Remove labeled articles from machines and stack them

HOURS OF WORK/TRAVEL

- Generally, these workers have a standard 35-40 hour week.

SAMPLE PLACES OF WORK

- Banks
- Insurance companies
- Wholesale and retail stores
- Firms that specialize in providing such business services as preparing bills and mailing circulars

4729 OFFICE MACHINE OPERATORS, N.E.C.

These people operate special office machines, such as those used to prepare addressing plates, list and total bank items, assemble pages in order, or sort and count money. Some tend machines used to mount microfilm onto cards, or to sort and record checks. They may operate one or more machines. Many of the machines they use must be set up for operation. To do this, the operator may adjust settings, margins, or other controls. They also may load or feed coins, checks, glue, paper or other materials into the machines.

SAMPLE WORK ACTIVITIES

- Operate a machine to emboss lettering on metal plates used in addressing machines or
  - Adjust the plate carriage for the size of plate
  - Read copy to be embossed
  - Turn a handwheel to set the lettering tool in position
  - Pull a lever to lower the tool and emboss the letters on the plate
- Set automatic controls to space letters, words, and lines
- Tend a machine that assembles pages of printed material in numerical order
  - Adjust controls that regulate the stroke of a paper pusher
  - Place pages to be assembled in holding trays
  - Start the machine and remove assembled pages
- Tend a machine that mounts microfilm onto file cards
  - Insert rolls of microfilm into the machine
  - Fill the machine hopper with presorted cards
  - Pour specified amounts of glue into the hopper
  - Start the machine and watch it operate
- Operate a machine to sort, record, and prove checks from out-of-city banks
  - Sort checks, drafts and credit letters according to bank
  - Endorse checks and other items by hand or machine
- Operate a machine to list and total items to be collected from banks
  - Make copies of transit letters and outgoing checks
  - List transit items, using an adding machine or calculator
- Sort and count paper money, using a money counter
  - Check money for fake or worn bills
  - Sort bills according to their value and insert them in the machine
  - Check totals registered on the machine against the amount of deposit reported, using an adding machine
  - Bundle and wrap counted money
- Sort, count, and wrap coins, using various machines
  - Feed coins into the hopper of a machine that counts and bags them
  - Remove, seal, and weigh bags of counted money
  - Wrap coins, using a coin-wrapping machine
- Tend a machine that separates, trims, and addresses receipt forms

- Adjust the machine to address the forms and separate them for mailing
- Check processed forms for correct printing, trimming, and separation
- Change machine ribbons

HOURS OF WORK/TRAVEL

- Generally OFFICE MACHINE OPERATORS keep regular office hours.

SAMPLE PLACES OF WORK

- Banks and other financial institutions
- Businesses offices

473 COMMUNICATIONS EQUIPMENT OPERATORS

These workers may send or receive messages by telegraph, telephone, radio, or teletype. They may receive messages from alarm systems or transmit wirephotos. They may work as switchboard operators, helping customers and clients make calls or arranging conferences. Others may send or receive coded messages, transfer large sums of money by wire, or direct the transfer of materials, such as petroleum, to distributors.

4732 TELEPHONE OPERATORS

These people operate telephone switchboards to connect callers. They listen with headsets and use pushbuttons, dials, or special plugs to connect phone lines. Most work in telephone central offices or large businesses. A few work in police stations, military bases, telegraph offices, airports, or operator training centers. Those who work in telephone offices help callers reverse charges, find phone numbers, arrange conference calls, and contact help in an emergency. They also record billing information for calls made.

SAMPLE WORK ACTIVITIES

- Operate a switchboard to put through long-distance calls
- Watch signal lights, plug cords into a trunk-jack, and press buttons to connect callers
- Put tickets into time-stamping devices to record the times that toll calls were made
- Look at charts to figure out the charges for pay-phone calls
- Send messages on private telegraph wires or phones
- Receive and send police messages
- Call for ambulances or fire trucks when requested
- Operate the communication system at an airport
- Look up phone numbers for callers
- Put through calls between offices in an business center

HOURS OF WORK/TRAVEL

- Many TELEPHONE COMPANY and BUSINESS OPERATORS work between 35 and 40 hours a week, often during regular office hours.
- TELEPHONE COMPANY OPERATORS and OPERATORS in hotels, hospitals, and other places where phone service is needed on a 24-hours basis, often work on shifts and on holidays and weekends.
- Some OPERATORS work split shifts -that is, they are on duty during the peak calling periods in the late mornings and early evening and have time off in between.
- Some OPERATORS work only part-time.

SAMPLE PLACES OF WORK

- Telephone and telegraph companies
- Manufacturing firms
- Hospitals
- Department stores
- Businesses that have a large number of phones
- Military services
- Airports
- Government agencies
- Police stations

4733 TELEGRAPHERS

People in these jobs operate telegraph equipment to send and receive signals or messages for customers or businesses. Some use special typewriters to transfer bank funds and securities. Others use telegraph keys and teletype machines to send and receive train orders and messages. They sometimes send and receive messages in code. Many of these workers perform clerical or other office duties in addition to sending and receiving messages.

SAMPLE WORK ACTIVITIES

- Type, code, and decode messages
- Use a telegraphic typewriter to transfer bank funds
- Keep records of bank funds transferred
- Read incoming messages to see if they contain errors
- Paste messages on a tape attachment to transmit them
- Press telegraph keys to send messages in Morse code
- Sell train tickets and forward baggage and freight
- Notify waterway officials of accidents and distress calls

HOURS OF WORK/TRAVEL

- TELEGRAPHERS who work at train stations or telegraph offices often work during nights and weekends. Also, they often work on shifts.

SAMPLE PLACES OF WORK

- Telegraph companies
- Railroad yards and stations
- Government agencies
- Banks and financial institutions

4739 COMMUNICATIONS EQUIPMENT OPERATORS, N.E.C.

These people send and receive messages. They work in diverse settings and use different kinds of equipment. They may operate a switchboard, radio, alarm, or wirephoto machine. Some relay messages to direct the flow of oil to and from an oil plant. Some provide telephone answering services for clients. Some listen in on the business calls of phone company workers to make sure that correct and courteous service to being given. Some wire photos to newspapers. Some operate alarm systems to send and receive messages about fires or intruders.

SAMPLE WORK ACTIVITIES

- Send messages between the central office, pipeline terminals, and pumping stations of an oil distribution plant
  - Use a switchboard to relay messages to direct the flow of oil and gas
  - Send, receive and post information on oil stocks
  - Receive reports of the pumping schedules
  - Type reports and records and keep files
- Operate a switchboard to provide a telephone answering service for clients
  - Greet callers and give the client's name or phone number
  - Record and deliver messages, give out information, and relay calls
  - Place phone calls for clients in emergencies
  - Date and keep files of messages
- Listen in on phone calls between telephone operators and customers to see whether proper service is being given
  - Plug the headphones into the switchboard, listen to conversation, and record errors
  - Give the list of errors to supervisors for action
- Operate a wirephoto machine to send news photographs to newspapers and magazines
  - Insert photographs into a camera chamber that has a device which scans and transmits photographs over telegraph wires
  - Adjust controls to regulate the processes of the machine
- Operate a fire alarm system, radio transmitter and switchboard to send and receive messages about fires
  - Receive incoming fire calls by phone or alarm system
  - Question callers and look at the city map to see if the fire is in the service area
  - Determine the number of units needed to respond to the fire
  - Use a radio to notify the fire department
  - Send messages from the scenes of fires, such as requests for more help and medical assistance
  - Record the date, time, and type of call received or sent
- Keep files of fire calls
- Read and record coded signals received by a security-signaling system
  - Interpret coded signals received on the signal board
  - Report alarms to the police or fire department
  - Record changes in customers' opening and closing schedules
  - Prepare daily activity reports

HOURS OF WORK/TRAVEL

- Many of these jobs may require evening and weekend work.

SAMPLE PLACES OF WORK

- Gas and oil pipelines and distribution centers
- Firms that provide business services, such as telephone answering
- Telephone companies
- Newspaper and magazine companies
- City and State law agencies
- Local fire departments
- Any business that operates its own security alarm system

474 MAIL AND MESSAGE DISTRIBUTING OCCUPATIONS

Workers in these occupations handle mail and other messages. They may work in post offices selling stamps, sorting mail, or answering customer questions. Some deliver mail to private homes and businesses. They sort mail and carry new mail back to the post office. In private industry and government agencies, some workers sort mail that has been delivered. They open it, stamp it, and route it to the appropriate place. Some workers deliver mail, packages, telegrams, and messages between businesses or individuals.

4742 POSTAL CLERKS, EXCEPT MAIL CARRIERS

POSTAL CLERKS process mail in local post offices and large mail processing centers. Most postal clerks sort mail. They separate incoming and outgoing mail into groups of letters, magazines, parcels, and newspapers. They also feed letters through stamp-canceling machines and sort mail by ZIP code for delivery or routing. Some work at public counters selling stamps, post cards, and stamped envelopes. They also register, insure, and weigh mail and compute the cost of mailing items. A few give tests to POSTAL CLERKS.

SAMPLE WORK ACTIVITIES

- Sort incoming mail into slots or bags, according to where it is going next
- Feed letters into an electric canceling machine
- Move mail from place to place in a post office
- Give tests to postal clerks to see what they know about city, state and regional addresses
- Sell postage stamps, post cards, and stamped envelopes
- Issue money orders
- Place mail into slots, according to addresses, or names of persons
- Weigh parcels on a scale and compute the mailing cost based on weight and destination
- Fill out forms for complaints about mail service
- Answer people's questions about mail regulations

HOURS OF WORK/TRAVEL

- POSTAL CLERKS who sort mail may have to work at night or on weekends, because most large post offices process mail around the clock.
- POSTAL CLERKS who work at counters rarely have to work at nights, but may work on Saturdays.
- Some POSTAL CLERKS work on a part-time basis.

SAMPLE PLACES OF WORK

- The US Postal Service

4743 MAIL CARRIERS, POST OFFICE

MAIL CARRIERS walk or drive over planned routes to deliver and collect mail. In the early mornings, they pick up their mail at the post office and arrange it for delivery. They then deliver the mail to places along their routes. They also collect postage-due and delivery fees for registered, certified, or insured mail. When they have completed their routes, they return to the post office with the mail they have gathered from places along their routes. They also turn in mail receipts and fees collected during the day.

SAMPLE WORK ACTIVITIES

- Drive a mail truck to deliver mail in a county area
- Pick up mail from roadside mailboxes

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- Insert mail into slots of a mail rack to sort it for delivery
- Arrange mail for delivery according to locations along the route
- Collect mail fees from people and have them sign receipts for mail
- Enter changes of address in a route book
- Readdress mail to be forwarded
- Deliver packages to businesses and homes

HOURS OF WORK/TRAVEL

- Most MAIL CARRIERS begin work early in the morning in some cases as early as 4 a.m., if they have routes in the business district.
- Some MAIL CARRIERS work on a part-time basis.

SAMPLE PLACES OF WORK

- The US Postal Service

4744 MAIL CLERKS, EXCEPT POST-OFFICE

These CLERKS prepare incoming and outgoing mail for distribution. When letters are received in an office, they stamp them with the date and then open, read, and sort them. They sort mail by destination and type, such as 'bills', 'orders', and 'payments'. Once the mail is sorted, they route it to the proper person or office for handling. They also prepare outgoing mail by sealing and stamping envelopes and packages. They may keep records of letters received and sent out. They also may use mail preparing and handling machines to process mail.

SAMPLE WORK ACTIVITIES

- Sign receipts for mail and record when it arrived
- Open and sort mail and stamp it with the date it was received
- Type routing slips
- Record the names of people who sent letters to transfer stocks
- File records and receipts for stock transfer orders
- Mail letters, ads, and sample goods to possible customers
- Open envelopes by hand or machine
- Readdress mail that cannot be delivered due to incomplete or incorrect addresses
- Keep a ledger of mail received and distributed
- Take outgoing registered mail to the post office
- Operate a machine that addresses, weighs, and bundles magazines or catalogs for mailing

HOURS OF WORK/TRAVEL

- Generally, these workers have a standard 35-40 hour work week, during regular office hours.

SAMPLE PLACES OF WORK

- Companies that print and publish items such as magazines, catalogs, and pamphlets
- Financial institutions,including banks and trust companies, mortgage associations, savings and loan companies, brokerages, and exchanges
- Wholesale and retail companies and stores
- Any business, firm, or industry that sends or receives large amounts of mail.

4745 MESSENGERS

MESSENGERS run errands and deliver letters, packages, and messages to homes, between departments, or to other businesses. Their work duties depend upon the job. Some deliver and pick up mail in a bank or business. Others deliver telegrams or packages to homes. In some jobs they may furnish workers with clerical supplies and deliver messages between offices. In other jobs, they sort and hand out mail, file articles and records, and do other small tasks that make office work go more smoothly.

SAMPLE WORK ACTIVITIES

- Phone railroad workers to tell them when to report to work
- Gather checks and legal documents from departments in a financial firm
- Deliver checks and securities and get receipts for them
- Deliver and pick up mail inside a bank
- Drive a car to pick up and deliver items
- Deliver messages, telegrams, and packages to businesses and private homes
- Walk, ride a bike, or take a cab to deliver items
- Open, sort, and hand out mail in a business office
- Collect, seal, and stamp outgoing mail
- Mark and file articles and records
- Deliver ads for an advertising agency
- Take items to and from offices in a building
- Insert items in a carrier and route them through tubes to different locations

HOURS OF WORK/TRAVEL

Generally, MESSENERS have a standad 35-40 hour work week.

SAMPLE PLACES OF WORK

- Printing and publishing firms, such as newspaper and magazine companies
- Banks, stock brokerages, and other financial firms
- Railroad companies
- Motion picture studios
- Telegraph offices
- Any office, business, or agency that must send letters, messages, or packages

475 MATERIAL RECORDING, SCHEDULING, AND DISTRIBUTING CLERKS

These workers keep track of materials, equipment, and work schedules. Some work as inventory clerks, receiving and dispersing goods and equipment from storerooms. Some control the flow of work or materials between company departments or dispatch materials and workers to work sites. Some work as meter readers, materials checkers, samplers, or expeditors. They check goods, measure use of products, or insure that production or service work runs smoothly.

4751 DISPATCHERS

DISPATCHERS send out workers, materials, and equipment as required by work orders. They review work orders and schedules and notify workers of repair or other work needed or materials that should be delivered. They may talk with department supervisors to find out how work is progressing and compile reports on the progress of work. **DISPATCHERS** also keep records of work orders received and relayed. **DISPATCHERS** work in many different settings and jobs. Many have other duties in addition to those described.

SAMPLE WORK ACTIVITIES

- Schedule times for cars to be repaired
- Notify garage workers to deliver cars
- Prepare work orders and send them to service crews
- Schedule service calls
- Send out service crews to repair phone lines or gas mains
- Call customers to see if they are pleased with repair service work
- Keep records of service calls and work orders
- Use a radio-telephone to dispatch orders and relay messages
- Take phoned-in requests for repair work and relay the requests to a maintenance crew
- Order supplies for repair workers
- Dispatch ship pilots to ships entering or leaving a port
- Notify security guards of work assignments
- Issue equipment to guards
- Broadcast orders to police radio patrol units
- Keep records of the number and types of railroad engines available
- Select tugboat captains from a roster and notify them to report to work
- Dispatch long-distance buses according to a schedule
- Send taxis out to people who call and request them
- Send workers out to repair roadways and other structures

HOURS OF WORK/TRAVEL

- In many jobs, **DISPATCHERS** may be asked to work evenings or night shifts. This is particularly true in utility, taxicab, and transportation companies and in police departments, where **DISPATCHERS** are needed 24 hours a day.

SAMPLE PLACES OF WORK

- Light, heat, and power companies
- Telephone companies and telegraph companies
- City or county waterworks plants
- Service garages
- Gas companies
- Police departments
- Taxicab companies
- Industrial plants
- Shipping and other water transportation companies
- Railroad and bus lines
- Companies that provide security guards and services

4752 PRODUCTION AND PLANNING CLERKS

These workers plan and schedule work activities in a business to insure that production or service schedules are met. They estimate the number of workers and amount and types of materials needed and then arrange for them to be provided. They schedule workers' time, relay work orders and schedules to departments, and compile work reports. They also may coordinate flow of materials and equipment between departments.

SAMPLE WORK ACTIVITIES

- Plan and schedule work activities to make sure that production or service schedules are met
- Study blueprints or drawings to determine the type and amount of material and equipment needed to make products
- Review production schedules and talk with department supervisors to determine the material required
- Prepare production schedules for products
- Study production schedules and staffing tables to determine the number of workers required
- Notify workers of their assignments
- Adjust schedules to meet emergencies caused by increased production demands
- Arrange for materials to be transferred between departments
- Coordinate the activities of workers in various departments

- Schedule the flow of work between departments to maintain production schedules
- Review daily records of activities, records of materials received and used, and reports from various workers
- Prepare and type reports
- Schedule work on garments received for alterations at a retail store
- Prepare schedules for the maintenance of military equipment
- Compile weekly assignment schedules for workers in the production department of a plant
- Compile schedules for an advertising agency to make sure that artwork, copy, and layouts are prepared on schedule
- Schedule due dates for work in a keypunch department
- Determine the flight times of airplanes
- Prepare schedules for bus or streetcar lines
- Gather parts required to complete electric units
- Estimate the labor and material costs of printing and binding books, pamphlets and other printed matter
- Relay scheduling information to workers on a car assembly line
- Advise railroad repair shops when locomotives need an oil change
- Compile duty rosters for air flight crews
- Schedule work for a train crew and keep their time records
- Assign taxi cabs to taxi drivers and keep records of their assignments and trips
- Keep records and reports of tests performed by power company crews

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Manufacturing plants
- Railroad companies
- Airline companies
- Trucking firms
- Light, heat, and power companies
- Construction companies
- Retail trade stores
- Printing and publishing companies
- Photofinishing plants
- Oil companies

4753 TRAFFIC, SHIPPING, AND RECEIVING CLERKS

These workers keep track of all shipments of goods leaving or arriving at a place of business. Before goods are shipped, they check to see that orders have been filled correctly. They may fill orders themselves, by obtaining goods from the stockroom and packaging them for shipment. They also may truck goods to the loading dock and direct their loading. They check incoming shipments to make sure orders have been correctly filled. They keep records of incoming and outgoing shipments and may arrange for adjustments when goods are lost or damaged.

SAMPLE WORK ACTIVITIES

- Record information about incoming and outgoing freights such as destination, sending department, and charges
- Read shipping orders to determine the amount and type of transportation needed
- Contact carriers to make arrangements for loading products
- Ship customers' parcels by railway express
- Weigh parcels and refer to rate charts to compute charges
- Sort parcels and place them in bins or sacks, according to their destinations
- Check the identity of freight cars entering a railroad yard to be loaded
- Keep records and prepare reports on the amount and value of fuel oil bought, received, stored, and used in electric-generating plants
- Count, weigh, or measure items to be shipped
- Stamp or glue shipping instructions on crates or containers
- Place materials into envelopes, boxes, or other containers to be shipped or mailed
- Book freight shipments on boats or ships

- Sort orders for fill processing and route them to processing units
- Receive articles returned by customers and route for repair
- File copies of invoices, cost estimates, and letters from customers
- Unpack and examine incoming shipments
- Reject damaged items and record shortages
- Route incoming goods to the proper departments
- Book freight shipments on boats or ships
- Count cattle, hogs, or sheep as they are unloaded from trucks in a stockyard

HOURS OF WORK/TRAVEL

- Night work and overtime, including work on weekends and holidays, may be necessary when shipments have been delayed or when materials are needed on production lines.

SAMPLE PLACES OF WORK

- Factories
- Wholesale houses
- Retail stores
- Warehouses

4754 STOCK AND INVENTORY CLERKS

STOCK and INVENTORY CLERKS receive, unpack, store, and issue goods and merchandise. They control the flow of supplies in and out of stock rooms. They report damaged or spoiled goods, keep track of the number of items in storage, and reorder things that are in short supply. They also may check the items for quality and amount, and sometimes make minor repairs or adjustments. Sometimes they label, pack, crate, or address goods for delivery.

SAMPLE WORK ACTIVITIES

- Receive, store, and issue items such as:
  - Ad mats used in printing newspapers
  - Movies, films, slides, and videotapes kept in film library
  - Explosive materials used at a factory, mine or building project
  - Spare parts used in a repair shop
  - Tool and equipment used in an industrial plant
  - Linens and uniforms kept in supply by a hotel, clinic, or hospital
  - Items kept at a movie studio prop room
  - Equipment, materials, and supplies at a warehouse or storage yard
  - Supplies aboard a ship
  - Bread and bakery products to be delivered by route drivers
  - Foodstuffs in a storeroom that furnishes a kitchen
  - Cloth samples used to show customers fabrics that are available
  - Athletic supplies used by a sports team
- Compile reports of stock on hand and the kind and amount of items sold
- Compile information from shipping and receiving papers, orders, contracts, and accounting records
- Post information to ledgers or other records
- Order stock as needed
- Compile records of the amount, kind, and value of goods on hand
- Prepare reports of inventories, prices and shortages
- Obtain parts from the stockroom and give them to workers
- Record the amount, size, and style of parts handed out to workers
- Copy code numbers onto work tickets to show where materials are located
- Direct workers to weigh or count stock and record the amount received
- Fill customers' mail and phone orders for merchandise
- Fill orders for sample products for sale workers or customers

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Factories
- Warehouses
- Wholesale firms
- Retail stores
- Airlines
- Government agencies
- Schools
- Hospitals
- Railroad yards
- Any organization that keeps large amounts of goods on hand

4755 METER READERS

METER READERS go to homes and businesses to check meters that register the amount of electricity, steam, gas, or water used by customers. They record the amount used, and then check, watch for, and report any damage to the meters. They may walk or drive a truck along their assigned routes to take the meter readings. They also may collect overdue payments from customers and stop service when bills remain unpaid.

SAMPLE WORK ACTIVITIES

- Walk or drive along an assigned route to take readings of meter dials attached to homes or other buildings
- Check meters and their connections for defects, damage, and improper use
- Fill out forms used to note and describe meter damage
- Turn off customers' electricity or water when they have not paid their bills
- Collect payments for bills that are late in being paid
- Return meter readings to the business office so they can be used in billing customers

HOURS OF WORK/TRAVEL

- METER READERS generally have a standard 35-40 hour work week.

SAMPLE PLACES OF WORK

- Light, heat, and power companies
- Water companies
- Gas companies

4756 WEIGHERS, MEASURERS, AND CHECKERS

These people check, weigh, measure, and count materials, products, or equipment and record information about them. They also may compute the costs, value, or size of items. This information may be used for billing, quality control, or production and payroll records. These people work in a variety of jobs and settings. Some weigh garbage, check aircraft parts, score tests, check shipments of goods, or time TV news reports.

SAMPLE WORK ACTIVITIES

- Check weigh-in markings on tobacco units and record their ID numbers, grades, and weights
- Estimate the size of loads on a truck entering a dump and collect fees based on the size of the load and the material dumped
- Weigh incoming raw cotton and compute and record ginning charges
- Measure each board in a stack of lumber and compute the total footage of the stack
- Read tickets attached to bundles of towels and record the number of bundles wrapped by each worker
- Record the yardage, weight, and lot number of processed cloth
- Use a weigh scale, counting device and tally sheet to add up the amount of raw materials such as fish, field crops, or steel ingots
- Weigh samples of products before and after waste is removed from them
- Compile records of the amount, kind, and condition of cargo unloaded from a ship
- Compute the cubic feet required to store cargo aboard a ship
- Weigh and record the weight of filled containers and the cargo of loaded vehicles
- Record the amount of sugarcane, cloth, and tobacco received for shipping
- Check to make sure that parts listed on packing and loading sheets are aboard aircrafts
- Verify the condition, value, and type of articles bought, sold, or produced against records or reports
- Measure tanks to determine the amount of liquids they can hold
- Compute the cost of ads, based on their size, date, and position in a publication
- Use a scoring machine or key to grade and score aptitude or ability tests
- Use a stopwatch to time radio or TV commercials and public service announcements
- Weigh and mark the price on produce in a self-service grocery store

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Companies that handle, produce, sell or receive items such as:
  - . Agricultural products
  - . Sugar
  - . Tobacco
  - . Textiles
  - . Knit goods
  - . Leather products
  - . Aircraft
- Shipping companies
- Companies that give and score psychological and other tests
- Any business or industry that keeps records of items shipped, received, produced, or processed

4757 SAMPLERS

SAMPLERS collect samples of products or materials to check them for defects, send them for testing, or mail them to customers. They often mark and file the samples for later use in filling orders or preparing reports. Some check products to see if they meet customer specifications. These jobs involve work with such products as paper, crude oil, phone equipment, cloth, milk, and raw cotton.

SAMPLE WORK ACTIVITIES

- Cut samples of paper products to certain sizes and mark them with customer order numbers, batch numbers, and grade and color of paper
- Mail samples of paper products to customers
- Compare blueprints of products with orders received from customers to make sure products meet specifications
- Contact customers to find out whether products were delivered
- Take samples from the top, middle, and bottom of a tank of crude oil
- Pour crude oil samples into bottles and send them to a lab for testing
- Write reports that describe the findings of tests on crude oil

- Examine returned phone equipment to see if it can be adapted for use
- Check cloth samples mounted in books to make sure they match the color and weave of samples approved by customers
- Collect milk samples from farms, dairy plants, and tank trucks for lab studies
- Pour milk samples in sterile bottles and weigh them on a scale
- Remove samples of cotton from bales to classify them

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Industrial firms
- Carpet and rug manufacturers
- Textile mills and outlets
- Companies that make electrical equipment
- Companies that make or distribute paper products
- Companies that sell agricultural products
- Firms that provide business services

4758 EXPEDITERS

EXPEDITERS try to see to it that production or service work runs smoothly and goods are delivered on schedule. They keep production records, write special orders, and perform services for customers. Some check work schedules and orders to see what materials will be needed and inform supervisors of the location, availability, and condition of materials. Others decide the order in which items will be made or repaired, compile reports on the progress of job orders, contact vendors to make sure supplies are shipped on time.

SAMPLE WORK ACTIVITIES

- Review production schedules and work orders to see what materials are needed to process orders
- Check inventory records to see what materials are on hand
- Direct workers to move materials to work areas
- Record the type and amount of materials sent to work areas
- Place items late in being processed at the front of a production line
- Compile production reports
- Phone, visit, or write to vendors to make sure goods will be shipped on time
- Arrange for workers who travel to get food service and transportation
- Arrange for gifts to be wrapped
- Take orders for greeting cards, decorated cakes, or cut flowers
- Arrange for defective goods that are covered by a warranty to be replaced
- Keep records of items in layaway
- Approve customers' checks
- Resolve customer complaints and requests for refunds and exchanges
- Phone people or businesses to tell them air freight has arrived
- Oversee the loading of cargo onto a plane

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Manufacturing companies
- Construction companies

- Retail stores
- Restaurants, cafeterias, and food chains
- Shoe repair shops
- Airline companies

4759 MATERIAL RECORDING, SCHEDULING, AND DISTRIBUTION CLERKS, N.E.C.

These workers examine orders for goods and services and see to it that the orders are processed promptly. They receive, store, and issue materials. They schedule the use of materials or services and keep records of materials on hand, in use, or in production. They may sort items and mark them with prices or codes so that they can be found quickly. They also may compile records, prepare reports, and order needed materials.

SAMPLE WORK ACTIVITIES

- Record information about castings poured in a foundry
- Keep records of articles lost, found, and claimed in a store
- Keep records of chemicals, materials, and equipment received for testing in a lab
- Stamp, stencil, or tag packages, and boxes of store goods to indicate delivery routes
- Sort garments according to lot and size numbers
- Remove sales-slip stubs from packages at a loading dock and sort the stubs to keep records of store deliveries
- Study engineering drawings to compile lists of parts needed to build airplanes
- Keep records and files of blueprints, drawings, and engineering documents required by departments in a plant
- Attach price tickets to merchandise in a store
- Check addresses on shipping tags or labels to see if they are correct and readable
- Record the price, name of buyer, and grade of tobacco on tickets attached to piles of tobacco sold at an auction
- Compute the time airplanes and their parts are in use each day
- Notify the inspection department when parts are due for an inspection
- Compile and record information about repair work done by railroad crews
- Write purchase orders for materials needed to repair railroad tracks and beds
- Compile and keep workers' production records

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Factories
- Retail stores
- Wholesale dealerships
- Airline companies
- Railroad companies
- Any business that must schedule the use of materials or services

478 ADJUSTERS, INVESTIGATORS, AND COLLECTORS

These workers gather information about individuals and businesses. They may work for insurance companies, investigating and settling claims. They may examine financial records to make credit reports or determine elisibility for financial aid. Others contact people to arrange for payment of overdue accounts and debts. They gather evidence, interview people, recommend action to be taken, and write reports of their findings.

4782 INSURANCE ADJUSTERS, EXAMINERS, AND INVESTIGATORS

These people study insurance claims to see whether clients' policies cover them for particular losses. They also determine the amount of loss suffered by clients. They talk with clients to try to settle claims, and may approve payments to them. They use reports, physical evidence, and witnesses' reports to investigate claims. Many of these workers specialize in a certain type of claim, such as auto, home, life, or property damage or loss.

SAMPLE WORK ACTIVITIES

- Prepare reports and insurance-claim forms
- Study claim forms and other records to determine people's insurance coverage
- Talk with, phone, or write to claimants and witnesses
- Study police and hospital records
- Inspect property damage
- Determine the extent to which a company is responsible for covering people's losses
- Prepare reports that describe claim investigations
- Talk with insured persons to try to settle claims
- Recommend legal action when claims cannot be settled
- Compare information on claim forms with that in company records
- Check claim forms to make sure they are complete
- Use a calculator to figure out the amounts of claims

HOURS OF WORK/TRAVEL

- ADJUSTERS may have to work evenings or weekends in order to interview witnesses and claimants.
- Since most companies provide 24-hour claim service, some ADJUSTERS always must be on call.
- On occasion, experienced ADJUSTERS may travel to the scene of a disaster, such as a hurricane or a riot, to work with local personnel. Some claims may require travel to other countries.
- CLAIM EXAMINERS have desk jobs, but occasionally may have to travel. Their average workweek is 35 to 40 hours, but they may work longer during peak claim loads or when quarterly or yearly statements are prepared.

SAMPLE PLACES OF WORK

- Insurance companies
- Independent adjusting firms that contract their services for a fee
- Banks, financial firms, and other business firms that hire ADJUSTERS to represent them in claims against insurance companies

4783 INVESTIGATORS AND ADJUSTERS, EXCEPT INSURANCE

These workers investigate people and/or businesses applying for credit, work, insurance, or loans. Some check business practices to make sure regulations are being followed. Some investigate customer complaints about products, services, or billings. These workers contact people by phone, mail, and in person to gather information about the persons, businesses, or complaints they are investigating. They often must travel to conduct interviews, trace debtors, check public records, or make inspections. They prepare reports of their findings and may take or recommend actions to resolve complaints or problems.

SAMPLE WORK ACTIVITIES

- Investigate claims for repayment due to defective auto parts
  - Examine auto parts claimed to be defective and approve or disapprove the claim
  - Help dealers handle unsettled claims by consulting with customers
  - Prepare reports of claims handled

- Phone or write to references listed on credit application forms to check applicants' credit standing

  - Type information on credit application forms
  - Give information about people's credit standing to credit bureau workers

- Record information about lost or stolen charge cards in customers' account records

  - Alert merchants to watch for stolen credit cards
  - Notify other workers to issue new charge cards to customers

- Visit railroad offices to examine records that show whether the correct tariff rates are being charged

  - Compute and check tariff rates, using a calculator and rate books
  - Instruct agents to correct errors in tariff rates
  - Compile reports listing the names and locations of agents using incorrect tariffs

- Investigate people or businesses applying for credit, employment, insurance, or loans

  - Contact former employers and neighbors to find out about people's past health and behavior
  - Examine public records to check on people's past residences, arrest records, and unpaid taxes
  - Obtain people's credit ratings from banks

- Investigate customer complaints about utility bills and services

  - Check past weather reports to see if they help explain increased power usage
  - Review meter books and accounting records to see if they contain errors
  - Order tests to detect faulty meters
  - Talk with customers in person or by phone to explain the reasons for high utility bills

HOURS OF WORK/TRAVEL

- Many of these jobs require local travel. A few jobs may require trips out of town that last several days.
- Some of these jobs may require some evening and/or weekend work.

SAMPLE PLACES OF WORK

- Auto manufacturing companies
- Banks and finance companies
- Credit bureaus
- Department stores and other retail stores
- Federal and State agencies
- Insurance companies
- Law firms and attorney's offices
- Railroad companies

4784 CLERKS, SOCIAL WELFARE

SOCIAL WELFARE CLERKS interview and investigate people applying for public aid. They talk with applicants to get information, such as size of family, health problems, and income. They advise applicants of requirements and opportunities for public aid, such as financial aid or low rent housing. They also give out information on community sources of aid. They check information obtained from applicants by contacting employers and public agencies. They record personal and financial information about applicants and determine whether aid should be granted, denied, or changed. They also prepare and keep records of assigned cases.

SAMPLE WORK ACTIVITIES

- Interview and investigate people who wish to apply for public low-rent housing

  . Process applications for public housing
  . Talk with applicants to get information, such as size of family, health and social problems, and income
  . Advise applicants of housing requirements and opportunities
  . Contact employers and public agencies to check applicant information
  . Give out information on community sources of social and financial aid
  . Determine whether applicants meet requirements for aid, based on agency rules and policies
  . Compute rent charges, based on applicants' income
  . Receive and record security deposits

- Interview applicants to determine if they meet requirements for public aid

  . Interpret and explain rules and regulations for grants
  . Record personal and financial information obtained from applicants
  . Determine whether aid should be granted, denied, or changed
  . Approve the amount of grants
  . Prepare and keep records of assigned cases

HOURS OF WORK/TRAVEL

- SOCIAL WELFARE CLERKS generally keep regular office hours.

SAMPLE PLACES OF WORK

- Federal, state, and local government agencies

4786 BILL AND ACCOUNT COLLECTORS

These workers contact people to arrange or collect payments for unpaid bills or accounts. Their main job is to convince people to pay their bills. Some keep files of information on debtors, the kinds and amounts of unpaid bills, and past payments made. They may contact the debtor by phone or mail or in person. Sometimes, they must search for debtors. They may repossess goods or discontinue services when payments are overdue. Other workers in this group collect money from coin boxes, pay phones, or parking meters.

SAMPLE WORK ACTIVITIES

- Call customers to let them know that their accounts are late in being paid
- Mail form letters to customers to encourage them to pay their bills
- Talk with people to find out why their bills have not been paid on time
- Order goods to be repossessed or services to be stopped
- Sort, read, answer and file letters from customers
- Trace customers' new addresses by inquiring at the post office or questioning their former neighbors
- Call customers to tell them their checks have bounced
- Keep records of collections made
- Use special tools to enter and start a car being repossessed
- Collect coins from parking meters or pay phones

HOURS OF WORK/TRAVEL

- Some of these jobs involve local travel to locate debtors or to collect money from coin boxes and meters.
- Some workers in this group may work during evenings and weekend hours.

SAMPLE PLACES OF WORK

- Business office
- Banks and loan companies
- Collection agencies
- Public utilities
- Repossession agencies

4787 LICENSE CLERKS

LICENSE CLERKS issue licenses and permits to qualified applicants. Some give tests to applicants to see if they meet licensing requirements. They issue driver's, liquor, marriage, dog, or other licenses and permits. They question applicants to get required information. They record this information on prepared forms and collect required fees. They also answer people's questions about licensing requirements. Some give tests to applicants to see if they meet requirements.

SAMPLE WORK ACTIVITIES

- Record the names, addresses, and other necessary information about people who are applying for licenses
- Collect the required fees from applicants
- Give oral and written tests to people, as required for licenses
- Advise dog owners about dog license laws

HOURS OF WORK/TRAVEL

- Most LICENSE CLERKS have a standard 35-40 hour work week.

SAMPLE PLACES OF WORK

- Federal, state and local government agencies that issue licenses and permits
- City halls
- County court houses

479 MISCELLANEOUS ADMINISTRATIVE SUPPORT OCCUPATIONS, INCLUDING CLERICAL

These workers perform varied tasks to help business operations run smoothly. They may work as bank tellers, taking deposits or keeping accounts records. Others work as proof-readers, checking copy for grammatical or typographical errors. Some work in data entry jobs, typing material into computer storage systems, while others compile statistical data for graphs and reports. Others work as teacher aides, classify fingerprints, serve court orders, or compute taxes.

4791 BANK TELLERS

BANK TELLERS cash checks for bank customers and help them deposit and withdraw money from their accounts. In small banks, TELLERS also may sort checks, total credit and debit slips, and prepare monthly statements for depositors. In large banks, tellers often specialize. One TELLER, for example, may sell savings bonds while another takes deposits for Christmas club accounts. Others may keep loan records, handle foreign monies, sell traveler's checks, or compute interests on savings accounts.

SAMPLE WORK ACTIVITIES

- Receive checks and cash for deposit
- Enter deposits in passbooks or give customers receipts
- Check customers' bank balances and cash checks
- Order daily cash supplies and count incoming cash
- Prepare cash for shipment
- Compute bank service charges
- Use adding machines, change makers, and other office machines
- Take home-mortage payments
- Buy and sell foreign moneys
- Type loan forms, such as notes, contracts, and loan renewals
- Open accounts in other countries
- Examine bond coupons to find the date they were issued, the payment date, and the amount due

HOURS OF WORK/TRAVEL

- BANK TELLERS usually have a standard 35-40 hour work week.
- A few TELLERS work evenings or on Saturdays, but most work during weekdays.

SAMPLE PLACES OF WORK

- Banks, savings and loan companies, and other such financial institutions

4792 PROOFREADERS

PROOFREADERS read written or typed materials to check for mistakes. They may either mark the errors they find or correct them. Some look for errors in grammar, spelling, and punctuation in copy (written matter to be reproduced in printed form), and then use special codes to mark the errors they find. Others read proof (trial copies) aloud so another worker can mark the errors. A few specialize in proofing Braille copy prepared for the blind, by sliding their fingers over the raised letters to feel for errors.

SAMPLE WORK ACTIVITIES

- Read a proof of printed copy to look for and mark errors
- Return marked proof for correction
- Check corrected proof against copy
- Correct proof while another worker reads the copy aloud
- Read copy while another worker marks errors on the proof
- Compare a proof copy of Braille writing against the original script in a book or newspaper
- Look up rules of grammar
- Use printer's symbols to mark errors

HOURS OF WORK/TRAVEL

- Some PROOFREADERS may work during nights and weekends.
- Some PROOFREADERS work part-time.

SAMPLE PLACES OF WORK

- Publishing companies
- Printing companies
- Newspapers
- Government agencies
- Companies or organizations that prepare materials for the blind to read
- Any organization that prepares a large amount of written material for publication

4793 DATA ENTRY KEYERS

DATA ENTRY KEYERS prepare input for computers and machines by punching patterns of holes in computer cards to represent numbers, letters, and characters. They use machines similar to a typewriter, or special machines that convert what they type to holes in cards or to magnetic impulses on tapes or disks. In most newer systems, the machine is equipped with an electronic screen that displays information as it is entered. Some workers typeset, check input, prepare braille, or code messages.

SAMPLE WORK ACTIVITIES

- Type coded commands on a computer terminal keyboard to enter and store data
- Proofread a printout to correct keying errors
- Type coded commands to a computer so it will produce finished copy
- Read instructions to find out how to get a computer to format text in a certain way
- Operate an electric typewriting machine to typeset master copies, such as stencils and photo-offsets, so copies can be made
- Move levers to control the spacing between characters typed
- Set stops to control margins of typed materials
- Operate a machine, similar to a typewriter, to impress dots in metal sheets for making braille books
- Load decks of punch cards or reels of magnetic tape into a machine
- Use a worksheet to type a computer program
- Set switches and press keys to generate magnetic impulses onto tape to record data
- Operate a special typewriter that punches holes in tape or paper so that letters or reports can be reproduced from it
- Operate an on-line computer typewriter terminal to enter data into a computer

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Manufacturing firms
- Wholesale and retail trade companies
- Banks
- Government agencies
- Printing and publishing companies
- Insurance companies
- Firms that provide data processing services for a fee

4794 STATISTICAL CLERKS

These **CLERKS** compile statistics (numbers that describe things or events) and put them in table form for charts and graphs. They may use adding machines, calculators, or computers. Some help prepare directories, survey findings, medical reports, opinion polls, or census reports. Others compute the amount of electricity used by customers, the amount of gas handled by pipelines, or the amount of money which should be budgeted for projects.

SAMPLE WORK ACTIVITIES

- Compile names, addresses, and other facts or opinions
- *Arrange information by name, location, sex, or other headings*
- Compute the amount of electricity used by customers and record the amounts used on record

forms for billings purposes
- Compile reports from measurement charts to show how much gas was produced and sold
- Compile daily records of the number of admissions to a hospital
- Compile information from production and sales records and present it in chart form

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Contracting firms that conduct surveys and polls
- Light, heat and power companies
- Government agencies
- Advertising agencies
- Hospitals and clinics
- Gas pipeline companies
- Business offices

4795 TEACHER AIDES

TEACHER AIDES help teachers with teaching and nonteaching activities. They do such things as listen to students read, help students find information, and prepare special classroom projects. They also grade papers, check homework, and keep health and attendance records. Some may type, file, and copy materials for teachers to use. They may also prepare teaching materials, set up equipment, and supervise students during lunch and recess.

SAMPLE WORK ACTIVITIES

- Use an electric marking machine to grade papers
- Compute grades for tests
- Average test grades to compute students' grades for a course
- Call the roll and prepare attendance
- Use answer sheets to grade homework
- Pass out workbooks, pencils, and other materials to students
- Keep order in the library and halls
- Set up and operate equipment such as slide and film projectors
- Collect money and keep records

HOURS OF WORK/TRAVEL

- TEACHER AIDES may work on a full-time or part-time basis. They usually work during the 10-month period when schools are in session.

SAMPLE PLACES OF WORK

- Public and private elementary and secondary schools

4799 ADMINISTRATIVE SUPPORT OCCUPATIONS, INCLUDING CLERICAL, N.E.C.

People in these jobs perform a wide range of clerical and other duties to help organizations operate smoothly. They often work in places other than business offices. Some coordinate the use of prizes on a TV game show. Some classify fingerprints in a police station. Some code and decode foreign cables. Some compile news stories for use on radio or TV. Some convert reading material to braille for use by the blind. These are only a few examples of the duties these workers may perform.

SAMPLE WORK ACTIVITIES

- Coordinate the use of prizes on TV game shows
- Compile information needed to process mortgage loans
- Operate a Braille typewriter to copy reading matter for use by the blind
- Operate equipment to copy police records
- Transfer people's fingerprints onto cards
- Code and decode cables that relate to foreign trade
- Compile schedules of ads and public-service announcements for a radio station
- Copy music onto manuscript paper
- Address envelopes, cards, and packages
- Perform clerical duties in a court of law
- Keep files and records of aircraft operations
- Record information on horseraces for use in a racing publication
- Authorize credit charges against customers' accounts
- Process and keep records of real estate loans
- Read newspapes and magazines for articles on a certain subject and mark articles to be clipped
- Rent safe-deposit boxes to bank customers

HOURS OF WORK/TRAVEL

- These people work in a variety of jobs and settings. Work hour requirements vary. Many keep regular office hours. Some may work evenings and weekends. A few jobs require local travel to serve court orders on people.

SAMPLE PLACES OF WORK

- Radio and TV broadcasting stations
- Bands and other financial institutions
- Schools
- Nonprofit organizations
- Printing and publishing companies
- Government agencies, including police departments
- Insurance companies
- Airline companies
- Business services

4999 SERVICE OCCUPATIONS

These workers perform a variety of public and personal services. They may work in private households, cleaning or caring for children. They may work in health care facilities, helping patients and assisting in treatment. Others work as waitresses, cooks, barbers, guides, ushers, or transportation attendants. Some work in protective services as firefighters and police. Others perform business maintenance or protective services.

50 PRIVATE HOUSEHOLD OCCUPATIONS

These workers are employed in private households to perform a variety of services. They may be day workers who clean houses, care for children, or cook. Others may do only cooking, serving, and menu planning. In large, formal households, butlers, and housekeepers supervise other staff who clean, cook, and care for children. Some household workers are responsible only for the care of children.

502 DAY WORKERS

DAY WORKERS do housecleaning chores, make beds, care for children, cook, and perform other services in private homes. They are hired by the hour or day to do this work. They often have several employers. Some specialize in a certain type of service, such as housecleaning or child care, but the duties of most workers change from day to day.

SAMPLE WORK ACTIVITIES

- Clean and dust furniture, hallways, and bathrooms
- Change bed linens and make up beds
- Wash and iron clothing by hand or machine
- Watch over children
- Wash windows
- Wax and polish floors

HOURS OF WORK/TRAVEL

- Many DAY WORKERS work part-time. They may work half-days or only two or three days a week
- These workers must travel to and from people's homes to provide services.

SAMPLE PLACES OF WORK

- Private households
- Companies that provide housecleaning and similar services

503 LAUNDERERS AND IRONERS

These people wash and iron clothes and household linens for one or several private families. They may be hired by the hour or day. They may do this work in their homes or at their employers' homes. Most of these workers do only laundry work, but a few do other household chores as well.

SAMPLE WORK ACTIVITIES

- Sort laundry items by color and fabric and load them into a washing machine
- Adjust machine settings for temperature, water level, and wash time
- Measure and add detergent, bleach starches, and fabric softeners, as required
- Remove items from the washer and load them into a dryer
- Sort, iron, and fold dried articles

HOURS OF WORK/TRAVEL

- Many LAUNDERERS and IRONERS work part-time.
- Some of these workers travel to people's homes to provide their services.

SAMPLE PLACES OF WORK

- Private households

504 COOKS, PRIVATE HOUSEHOLD

People in these jobs prepare and cook food for private families or households. They also plan menus and order food supplies. Some serve meals and clean the kitchen as well. Others have helpers who perform chores like peeling vegetables and cleaning the kitchen. These COOKS prepare meals according to recipes or to suit an employer's tastes. They may prepare dishes for special diets. Some PRIVATE HOUSEHOLD COOKS live in their employer's home.

SAMPLE WORK ACTIVITIES

- Plan menus and order food supplies
- Wash, trim, and prepare vegetables and meats for cooking
- Follow a recipe to prepare and bake breads and pastries
- Boil, broil, fry, and roast meats
- Clean pots and pans and other cooking utensils
- Preserve and can fruits and vegetables
- Prepare dinners and serve them to old or disabled persons

HOURS OF WORK/TRAVEL

- PRIVATE HOUSEHOLD COOKS who live with families may work long or irregular hours.
- These COOKS may sometimes have to work during weekends and on holidays.

SAMPLE PLACES OF WORK

- Private households

505 HOUSEKEEPERS AND BUTLERS

HOUSEKEEPERS and **BUTLERS** supervise the staff and the operation of large households. They usually are responsible for hiring and firing the other household employees. Besides these duties, **BUTLERS** receive and announce guests, answer the phone, serve food and drinks, and may act as personal attendants. **HOUSEKEEPERS** order food and cleaning supplies and keep records of household expenses. Often, these workers live in the employer's home.

SAMPLE WORK ACTIVITIES

- Inform new household workers of the employer's wishes
- Instruct new staff in work methods and routines
- Assign workers to cook, serve meals, wash and iron, and do other household duties
- Adjust work activities to suit family members
- Oversee the serving of meals
- Set tables
- Mix and serve drinks
- Answer the phone and deliver messages
- Announce guests
- Serve food and drinks during meals
- Clean and polish silver
- Wax floors and wash windows
- Lay out clothes for family members to wear
- Polish shoes

HOURS OF WORK/TRAVEL

- **HOUSEKEEPERS** and **BUTLERS** who live in the employer's home may sometimes work long or irregular hours.
- These workers may sometimes have to work during weekends and on holidays.

SAMPLE PLACES OF WORK

- Private households

506 CHILD CARE WORKERS, PRIVATE HOUSEHOLD

People in these jobs take care of children in a private home. They may care for one or more children in an employer's home or in their own homes. Some rear homeless or parentless children as members of their own families. **CHILD CARE WORKERS** bathe children, prepare their meals, wash their clothes, and supervise their play, care for babies, sterilize bottles, prepare and change diapers. These workers may care for children on an hourly, daily, or full-time basis.

SAMPLE WORK ACTIVITIES

- Schedule activities for children, such as exercise, rest, and play periods
- Amuse children by reading to them or playing games with them
- Prepare and serve meals or formulas
- Sterilize bottles and equipment used for feeding infants
- Bathe and dress young children
- Take children on walks and outings
- Wash and iron children's clothes
- Keep children's rooms neat and tidy
- Schedule activities for children such as exercise, rest and play periods
- Take foster children to their parents' home during weekends and holidays
- Write reports about children's progress and behavior for a welfare agency

HOURS OF WORK/TRAVEL

- Some of these workers may be employed on an hourly or daily basis. They may work during days or evenings.
- CHILD CARE WORKERS who live in an employer's home may care for children during evening and weekend hours.
- CHILD CARE WORKERS who rear children in their own homes must meet children's needs daily, throughout the day and night, and on weekends and holidays.

SAMPLE PLACES OF WORK

- Private households

507 PRIVATE HOUSEHOLD CLEANERS AND SERVANTS

People in these jobs perform a variety of tasks to help keep private homes clean and neat and to serve family members. Some plan and prepare meals, do dishes and laundry, polish furniture, vacuum, make beds and do other light household tasks. Others do heavy household work, such as washing windows and floors, painting fences, mowing lawns, and repairing doors and fixtures. Some of these workers live in the employer's home. Others report to work at private homes on a regular or part-time basis.

SAMPLE WORK ACTIVITIES

- Plan meals and order food and household supplies
- Prepare and serve meals and refreshments
- Wash dishes and clean silverware
- Help children bathe and dress
- Use a vacuum cleaner, mops, brooms, and cleaning solutions to clean floors and windows
- Change bed linens and make up beds
- Wash, mend and iron clothing and household articles
- Answer the doorbell and phone
- Clean bathrooms
- Beat and vacuum rugs
- Wax and polish floors
- Remove and hang draperies
- Clean and oil furnace
- Repair broken screens and doors
- Paint fences, garages and sheds
- Mow and rake the lawn
- Groom, feed, and exercise pets

HOURS OF WORK/TRAVEL

- HOUSEHOLD WORKERS who live in an employer's home may have long or irregular hours. Sometimes, they may be required to work during nights, weekends, or holidays.
- Some HOUSEHOLD WORKERS work part-time.

SAMPLE PLACES OF WORK

- Private households

509 PERSONAL ATTENDANTS, COMPANIONS, AND OTHER PRIVATE HOUSEHOLD OCCUPATIONS

These people provide personal services to people in private homes. **PERSONAL ATTENDANTS** take care of an employer's clothing, prepare baths, run errands, pack clothing for travel, and perform similar services as requested. **COMPANIONS** generally work for an elderly or handicapped person or someone recovering from an illness. They do such things as help them take care of social and business affairs, accompany them on trips and outings, and entertain their clients by reading aloud or playing games. Some jobs require that workers be able to drive.

SAMPLE WORK ACTIVITIES

- Brush, clean, press, and mend an employer's clothing
- Help an employer dress
- Pack clothing for travel
- Clean an employer's quarters
- Buy clothing for an employer
- Drive a car to perform errands
- Mix and serve drinks and refreshments
- Shampoo and groom an employer's hair
- Give shaves and give massages,
- Take care of a client's social or business affairs
- Play cards and other games with an employer

HOURS OF WORK/TRAVEL

- Some of these jobs may require travel to take clients to appointments, run errands, or accompany clients on trips and outings.
- Generally, these jobs require some evening, weekend, and holiday work. Some jobs require that workers be available to serve the employer on a 24-hour basis.

SAMPLE PLACES OF WORK

- Private homes

51 PROTECTIVE SERVICE OCCUPATIONS

These workers provide public and private protective services. They may work as crossing guards, body guards, or security guards in buildings or armoured vehicles. Others may work as investigators or undercover agents. In public service, they may work as police or detectives, enforcing laws, investigating crimes, and patrolling areas to insure public safety. Others work as firefighters or inspectors, preventing, fighting, or investigating fires.

511 SUPERVISORS: SERVICE OCCUPATIONS, PROTECTIVE

These workers supervise and coordinate the activities of workers in protective service occupations. They may supervise the training of guards, firefighters, inspectors, detectives, or police. They may plan work activities and schedules, enforce discipline, and handle complaints. They may speak before community groups, testify in court, write reports, and perform many of the duties of the workers they supervise.

5111 SUPERVISORS: FIREFIGHTING AND FIRE PREVENTION OCCUPATIONS

These people supervise and direct the activities of workers who try to prevent, control, and put out fires. They also do such things as inspect homes and public buildings for fire hazards and speak before community groups to warn them of such hazards. Their work duties include training new workers, keeping work records, and writing reports. They also direct firefighting activities at fire sites.

SAMPLE WORK ACTIVITIES

- Train workers to use firefighting equipment to put out different types of fires
- Inspect fire stations, firetrucks, and equipment to see that they meet set standards
- Determine the nature and extent of fires, and the danger to nearby buildings
- Direct firefighting activities at the site of a fire
- Inspect homes and other buildings for fire hazards
- Keep worker and equipment records
- Plan and direct fire drills
- Prepare reports of fire calls, describing the location and cause, and the amount and type of damage
- Use a radio to talk with firefighters from an airplane to find what help they need and to tell them about changing conditions

HOURS OF WORK/TRAVEL

- Many of these jobs require shiftwork.
- Many of these jobs involve night, weekend work and some overtime work.
- These SUPERVISORS may travel to make inspections, study fire hazards, attend meetings, or give talks before groups.

SAMPLE PLACES OF WORK

- City and county fire departments
- Airports
- Large manufacturing firms
- Insurance companies
- State agencies
- Military services

5112 SUPERVISORS; POLICE AND DETECTIVES

These people supervise police who keep law and order, detect and prevent crimes, control traffic, and investigate criminal cases. They study assignments and determine the workers, materials, and supplies needed to complete them. They establish work procedures, assign duties, and enforce discipline. They train new officers, explain police rules and laws, and enforce safety rules. They prepare reports and recommend ways to improve work methods and conditions. They also may and perform many of the duties of the officers they supervise.

SAMPLE WORK ACTIVITIES

- Supervise correction officers at a prison
  - . Conduct roll calls of officers and assign duties
  - . Direct the release or transfer of prisoners
  - . Investigate inmate disturbances, such as fights
  - . Help handle unruly inmates
  - . Keep prison records and prepare reports
  - . Review work records to determine staff members that suited for assignments
- Supervise the activities of staff in a jail

- Establish rules, and procedures to be followed by jailers
- Prepare work schedules and assign duties
- See that inmates are available for trials or hearings
- Escort inmates to courts, hospitals, or other places
- Direct the search of inmates and prison areas
- Inspect facilities for cleanliness
- Write daily activity reports
- Prepare orders for supplies

- Supervise police officers assigned to patrol duty

- Inspect uniforms and equipment
- Cruise in a car to watch officers on duty
- Report dangers in streets or sidewalks, such as holes or leaking gas mains

- Direct the activities of officers who gather, classify, and identify evidence and keep police department records

- Plan a police record-keeping sytem
- Keep an evidence file for active criminal cases
- Direct officers who prepare statistical and activity reports
- Review reports for accuracy before they are released
- Prepare budgets for the unit

- Supervise officers assigned to a police precinct station

- Take responsibility for the safekeeping of money and valuables taken from prisoners
- Supervise offficers as they search prisoners
- Supervise staff who send and receive radio messages

- Supervise law officers who handle community social problems

- Talk with social service agencies and public groups to develop programs to meet community needs
- Sponsor events, such as dances and ball games for neighborhood youths
- Give lectures on police department functions and goals

- Direct the activities of highway patrol officers

- Prepare reports on traffic conditions in the patrol area
- Direct officers in the safe use and care of police vehicles

- Supervise detectives who investigate murder cases

- Go to the scene of a crime and take charge of the investigation
- Order person in the area of a crime to be held for questioning
- See that bodies are photographed in the position in which death occured

- Direct officers who investigate persons suspected of law violations, such as gambling, prostitution, or drug dealing
- Direct detectives who investigate auto thefts, and armed robberies

- Assign detectives to public gatherings to protect the public from pickpockets and other criminals

HOURS OF WORK/TRAVEL

- Police protection must by provided around the clock. Therefore, some **POLICE** and **DETECTIVE SUPERVISORS** are on duty over weekends, on holidays, and at night. The scheduled workweek for these workers usually is 40 hours. However, they are subject to call any time their services are needed and may work overtime in emergencies.
- These jobs may require travel to transport prisoners, make inspections, collect information, and attend community and police meetings.

SAMPLE PLACES OF WORK

- Federal, State, and Local government agencies concerned with law and order, including:

- City and county police and sheriff's departments
- State bureaus of investigation
- Federal Bureau of Investigation
- State highway patrols
- Military prisons
- Harbor patrols

5113 SUPERVISORS; GUARDS

GUARD SUPERVISORS direct the activities of guards and related workers in stores, factories, museums, prisons, and other places where people or property need protection. They plan work activities and prepare work schedules. They assign duties to workers and check their work to make sure it meets with policies and procedures. They handle complaints and may assist workers in performing their duties. They prepare work reports and may keep time and personnel records. Some are responsible for hiring, training, and firing workers.

SAMPLE WORK ACTIVITIES

- Interpret security rules and direct guards to enforce them
- Direct activities during fires, storms, riots, or other emergencies
- Inspect buildings and grounds
- Test alarm systems and fire extinguishers to make sure they work properly
- See that safety rules are posted and enforced
- Train workers in protective procedures, first aid, and fire safety
- Assign store detectives to shifts at various locations, based on their skills and experience
- Evaluate worker performance
- Explain to workers how to detect and catch shoplifters
- Act as an undercover agent in a retail store to detect dishonest or incompetent workers
- Prepare detailed reports of investigations
- Contact businesses to sell security services
- Inspect workers for proper clothing
- Keep records of workers' daily activities

HOURS OF WORK/TRAVEL

(No information)

SAMPLE PLACES OF WORK

- Retail stores
- Security agencies
- Industrial plants
- Institutions, such as reformatories, prisons, mental hospitals, and museums
- Government agencies

512 FIREFIGHTING AND FIRE PREVENTION OCCUPATIONS

These workers inspect buildings and wooded areas to find fire hazards and prevent fires. They may provide educational programs in fire prevention and safety. They may investigate the causes of fires, enforce fire laws, and arrest suspected arsonists. Others work as firefighters, putting out fires and rescuing people, animals, and property. They give first aid to injured individuals and drive emergency vehicles.

5122 FIRE INSPECTION AND FIRE PREVENTION OCCUPATIONS

People in these jobs inspect buildings and forest areas to detect fire hazards and recommend ways to prevent fires. They prepare reports of their inspections and may testify in court about their findings. They also investigate the causes of fires, enforce fire laws, and test firefighting equipment. They may arrest and detain people suspected of starting fires. Sometimes, they talk to school groups to warn children of the dangers of fire. They also may give first aid in emergencies and help fight fires.

SAMPLE WORK ACTIVITIES

- Recommend safe methods of storing materials which easily catch fire
- Inform building owners of unsafe conditions, such as faulty wiring
- Issue summons for fire hazards not corrected
- Keep files of inspection records
- Investigate the causes of fires or explosions
- Interview witnesses to get the facts about fires
- Arrest people suspected of starting fires
- Testify in court about information obtained during a fire investigation
- Examine fire sites and collect evidence
- Instruct school children in the dangers of fires
- Patrol an industrial plant to look for fire hazards
- Take temperature and pressure readings from instruments
- Inspect and test firefighting equipment and sprinkler systems
- Enforce governmental fire regulations in forest and logging areas
- Receive and relay emergency calls, using a two-way radio
- Put out small fires in a forest

HOURS OF WORK/TRAVEL

- Many of these workers travel to make site inspections, interview witnesses, and study fire hazards.

SAMPLE PLACES OF WORK

- Federal, state, and local government agencies
- Manufacturing firms
- Insurance companies
- Logging companies

5123 FIREFIGHTING OCCUPATIONS

FIREFIGHTERS work as members of a team to control and put out fires and to protect lives and property from this hazard. They use firefighting equipment such as hoses and ladders as well as chemicals, axes, crowbars, and many other tools and materials to fight fires. They may operate emergency vehicles or parachute from planes. They clean and service their equipment, take part in fire drills and training programs, and inspect areas for fire hazards. They also give first aid to the injured.

SAMPLE WORK ACTIVITIES

- Direct a stream of water or chemicals into a fire
- Climb a ladder to fight a fire in the upper level of a building or to help people escape
- Use an axe, chisel, crowbar, electric saw, or other power equipment to make openings in buildings
- Give first aid to injured persons
- Use a portable two-way radio to talk with other workers during a fire
- Clean buildings, equipment, and grounds
- Inspect the scene of a fire to see what help is needed
- Compile records and type reports

- Help remove trapped or injured passengers from the wreckage of a plane
- Take part in a fire drill
- Take courses that teach different firefighting techniques
- Parachute from an airplane into a forest
- Use a compass and map to locate forest areas
- Collect equipment and supplies dropped from airplanes
- Fell trees, dig ditches, and cut and clear brush
- Shovel dirt onto fires
- Walk or drive through a burned area to look for hot spots that might restart a fire

HOURS OF WORK/TRAVEL

- In some cities, FIREFIGHTERS are on duty for 24 hours, then off for 48 hours, and receive an extra day off at intervals. In other cities, they work a day shift of 10 hours for 3 or 4 days, a night shift of 14 hours for 3 or 4 nights, have 3 or 4 days off, and then repeat the cycle. However, in many large cities FIREFIGHTERS work a standard 40-hour week.
- In addition to scheduled hours, FIREFIGHTERS often must work extra hours when they are bringing a fire under control. However, duty hours may include some time when they are free to read, study, or pursue other interests.

SAMPLE PLACES OF WORK

- City and county fire departments
- Fire departments on federal property
- Forestry industries
- Airports
- Large manufacturing plants
- Federal and state agencies concerned with the preservation of our natural resources
- Any industry concerned with the preservation of our natural resources

513 POLICE AND DETECTIVES

These workers provide public protective services. They may direct traffic, give first aid, arrest lawbreakers, investigate crimes, or patrol areas by boat, helicopter, or auto. Some work with rescue squads or become experts in firearms or fingerprints. Other workers maintain order in jails and prisons. They supervise prisoners and may settle disputes. Some work as bailiffs, serving court orders or providing security in courtrooms.

5132 POLICE AND DETECTIVES, PUBLIC SERVICE

These workers enforce law, prevent crime and protect the public. Their duties range from controlling traffic to solving criminal cases. Many specialize in a particular work area such as customs patrol, protective services, traffic safety, crime prevention, or narcotics and vice. Some work in special units such as motorcycle squads, harbor or helicopter patrols, rescue squads, or youth aid services. Work duties vary.

SAMPLE WORK ACTIVITIES

- Patrol city housing projects and parks to prevent crimes and keep the peace
- Do investigations to prevent or solve criminal cases
- Arrest people who sell or use illegal drugs
- Investigate traffic accidents to get details about what happened
- Fly a plane to patrol highways and enforce traffic laws
- Walk an assigned beat to prevent crime and arrest violators
- Drive a highway patrol car to enforce state motor vehicle and criminal laws
- Watch crime suspects to get information about them
- Visit stores and movie theaters to detect, prevent and solve crimes
- Prevent people from illegally entering the country
- Take fingerprints at the scene of a crime

- Write activity reports

HOURS OF WORK/TRAVEL

- The scheduled workweek for POLICE OFFICERS and DETECTIVES is 40 hours, but they may work overtime in emergencies.
- Some POLICE OFFICERS are on duty over weekends, on holidays, and at night.

SAMPLE PLACES OF WORK

- Local, City and State police departments
- State Investigation Agencies
- Federal agencies such as the Federal Bureau of Investigation and the Border Patrol

5133 CORRECTIONAL INSTITUTION OFFICERS

CORRECTIONS OFFICERS are charged with the safekeeping of persons who have been arrested and sent to prison or jail. They keep order within the institution, enforce rules, and may counsel inmates. They watch everything inmates do. They also assign work duties and instruct on specific tasks, search inmates and cells for items such as weapons or drugs, settle disputes between inmates and enforce discipline. Some guard inmates from a tower. Others escort and guard prisoners outside.

SAMPLE WORK ACTIVITIES

- Search prisoners for weapons, valuables, and drugs
- Lock prisoners in cells
- Serve meals to prisoners in a jail
- Prepare arrest records on prisoners
- Question prisoners to get information needed to solve crimes
- Take aliens who have illegally entered the country into custody
- Escort aliens to places such as courts, hospitals, jails, or holding centers
- Watch inmates in a prison to prevent riots or escapes
- Inspect locks, window bars, and doors for signs of tampering
- See that prisoners obey rules
- Guard prisoners being transported to a jail, courthouse, prison, or mental ward
- Direct inmates during work assignments
- Escort prisoners to and from a visiting room or medical office

HOURS OF WORK/TRAVEL

- CORRECTIONS OFFICERS usually work an 8-hour day, 40-hour week.
- Because prison security must be provided around the clock, some CORRECTION OFFICERS must work during weekends, holidays, and nights.
- During emergencies, these workers may put in ovetime.

SAMPLE PLACES OF WORK

- State correctional institutions such as prisons, prison camps, and reformatories
- City and county jails or other institutions run by local governments
- Federal correctional institutions
- Federal agencies such as the Immigration and Naturalization Service

5134 SHERIFFS, BAILIFFS, AND OTHER LAW ENFORCEMENT OFFICERS

These people enforce laws, keep order in courts, serve summonses, and provide police and detective services in rural areas. Their duties may range from issuing parking tickets to directing the activities of a sheriff's department. They study new laws and methods to detect crimes and enforce laws. They assign duties to police, handle work problems and complaints, train new officers, and enforce discipline. They prepare budgets and reports and order equipment and supplies. They may also drive a police car, search suspects, and evict people from property.

SAMPLE WORK ACTIVITIES

- Patrol a section of a city to issue parking tickets
- Investigate complaints against the department
- Provide security for social functions in a community
- Give public talks about traffic safety and crime prevention
- Review summonses, arrest orders, and other court orders to see that they meet State and county laws
- Prepare legal notices for selling unclaimed property
- Check division accounts and money records for accuracy
- Write division activity reports
- Review duty logs and assign officers to posts
- Inspect officers' uniforms and check their patrol cars to see that they conform to standards
- Dispatch first aid units, sniper teams, and search-rescue units during emergencies
- Conduct hearings in cases of officer misconduct
- Train officers in police techniques
- Oversee arrests, fingerprinting, and related procedures
- Supervise investigations of drug traffic and auto thefts
- Patrol an assigned area to enforce laws, investigate crimes, and arrest violators
- Take control at traffic accidents to direct traffic, help accident victims, and determine the causes of accidents
- Transport or escort prisioners
- Serve subpoenas and summonses
- Escort defendants to and from the courtroom and stand guard during court proceedings

HOURS OF WORK/TRAVEL

- The scheduled workweek for **LAW ENFORCEMENT OFFICERS** is usually 40 hours. However, police protection must be provided around the clock. Therefore, some officers are on duty over weekends, on holidays, and at night. **POLICE OFFICERS** are subject to call any time their services are needed and may work overtime in emergencies.
- Some of these jobs require the use of police vehicles to control traffic, patrol streets, and transport suspects and criminals. Travel may also be required to attend meetings, collect evidence, serve summonses, and give talks before community groups.

SAMPLE PLACES OF WORK

- County sheriffs' departments
- Federal, state, and local courtrooms

514 GUARDS

These workers protect people and property. They may work at railroad or street crossings, helping traffic or children cross hazardous areas safely. They may guard buildings against fire, theft, or illegal entry. Some work as life guards on ski patrols, insuring the safety of individuals. Others may work as undercover agents in stores, watching for shoplifters. Some may drive armoured cars or act as body guards.

5142 CROSSING GUARDS

CROSSING GUARDS watch over street or railroad crossings to make sure that people who are driving or walking are safe. They warn people of approaching traffic and may escort them across streets or other crossings. Some direct traffic at road building projects or at school crossings. Others control railroad-crossing gates.

SAMPLE WORK ACTIVITIES

- Guard street crossing during hours when children are going to or from school
- Direct the actions of children and traffic to make sure children cross streets safely
- Write down the license numbers of cars that fail to observe traffic signals
- Escort children across streets
- Place caution signs near crossing lanes
- Stop speeding drivers and warn them to slow down
- Guard a railroad crossing to warn drivers and walkers of approaching trains
- Listen for trains from a watchtower
- Press buttons to flash warning signal lights and lower railroad crossing gates
- Place traffic control signs and markers along a road building site
- Direct traffic through detours
- Warn road builders of cars that fail to heed signals

HOURS OF WORK/TRAVEL

- **CROSSING GUARDS** at school crossings may work part time, before and after school hours.
- **CROSSING GUARDS** at railroad sites may work during evenings, nights, weekends and holidays.

SAMPLE PLACES OF WORK

- Schools
- Construction companies
- Railroad companies
- State highway departments

5144 GUARDS AND POLICE, EXCEPT PUBLIC SERVICE

These people protect or guard people and property. Some investigate fires, thefts or other matters for individuals or businesses. Some drive armoured cars to transport money or valuables. Some escort people to protect them from bodily harm. Some guard business property against fire, theft, and illegal entry. Some investigate the illegal use of credit cards, investigate thefts in a store or locate missing people.

SAMPLE WORK ACTIVITIES

- Guard shipments of valuables carried by a railroad
- Drive an armoured van to transport money and valuables
- Screen airline passengers and visitors for weapons, explosives, and other forbidden articles
- Guard plant grounds, warehouses, or other property to control traffic to and from buildings and grounds
- Guard property against fire, theft, vandalism, and illegal entry
- Investigate cash shortages occuring in the sales section of a department store
- Investigate cases of fraud involving the use of charge cards reported lost or stolen
- Conduct private investigations to locate missing persons
- Patrol hotel or motel property to maintain order and enforce rules and laws
- Investigate people suspected of obtaining utility services through fraud or error
- Work in a store as an undercover operator to check on the honesty of the staff and see if company rules are being followed
- Keep order and enforce standards of behavior at sports events

HOURS OF WORK/TRAVEL

- Some of these jobs require travel to transport valuables, conduct investigations, or protect people from harm. A few jobs, such as PRIVATE INVESTIGATOR or PRIVATE EYE may occasionally require long distance travel.
- Many of these jobs involve some evening and/or weekend work. Some jobs offer opportunity for temporary or part-time work.

SAMPLE PLACES OF WORK

- Railroad companies
- Private investigation firms
- Armoured car firms
- Airline companies
- Security firms
- Retail stores
- Industrial plants
- Public utilities
- Hotels and restaurants
- Golf courses and other recreation facilities
- Any business or industry

5149 PROTECTIVE SERVICE OCCUPATIONS, N.E.C.

People in these jobs try to protect people and animals from harm. They also may rescue and care for people or animals who have suffered injuries or have other problems. Some maintain order and safe conditions on school buses. Some safeguard swimmers or skiers. Some investigate cases of animal cruelty or neglect, or help relocate wild animals found in overcrowded areas. Some pick up stray or unlicensed animals and take them to a pound or shelter. These workers enforce regulations and may keep records and write reports.

SAMPLE WORK ACTIVITIES

- Maintain discipline and safety on a school bus
  - . Direct the loading of students onto a school bus
  - . Ride a school bus to prevent misbehavior and damage
  - . Take part in bus safety drills
- Investigate animal cruelty and neglect charges
  - . Interview witnesses to get information
  - . Inform people of the penalties for violating the humane acts of the law
  - . Feed starving animals and free trapped animals
  - . Take abused animals to a shelter for treatment and care
  - . Inspect animal quarters for violations of the law
  - . Write activity reports
- Conduct surveys to estimate the number of birds and animals in an area
  - . Recommend changes in hunting and trapping seasons
  - . Recommend that animals in overpopulated areas be moved
  - . Tranquilize and relocate deer, bear, and other animals
  - . Take pictures of areas damaged by bears, of other wild animals
  - . Give talks about wildlife to civic, school, and sports groups about wildlife
- Patrol ski trails and slope areas to help skiers and report the condition of trails and slopes
- Watch activities in swimming areas to prevent accidents and help swimmers
- Capture and impound unlicensed, stray, and uncontrolled animals
  - . Investigate complaints of animal bite cases

. Supply food, water, and personal care to animals in a pound or shelter

HOURS OF WORK/TRAVEL

- Jobs such as **ANIMAL TREATMENT INVESTIGATOR, WILDLIFE CONTROL AGENT,** and **DOG CATCHER** require travel to investigate claims of animal abuse and to catch and relocate animals.
- **SKI PATROLLERS** and **LIFEGUARDS** often must work during weekends.

SAMPLE PLACES OF WORK

- Schools
- Federal and State agencies concerned with wildlife management and preservation
- City pounds
- Humane societies and animal protection agencies
- Ski resorts
- Swimming pools and beaches
- Private companies that provide protective services

52 SERVICE OCCUPATIONS, EXCEPT PRIVATE HOUSEHOLD AND PROTECTIVE

These workers provide services to people in businesses, institutions, health care facilities, and restaurants. They may provide such personal services as barbering or aiding patients with grooming. Others may assist health professionals in hospitals and dentist offices. Some work in entertainment facilities, helping with costumes or seating. Others work as cooks or waitresses in restaurants. Some workers provide cleaning and building maintenance services.

521 FOOD AND BEVERAGE PREPARATION AND SERVICE OCCUPATIONS

Workers in these occupations prepare or serve food or beverages. They may cook food for restaurants, cafeterias, hospitals, or hotels. they may also work as short order cooks at lunch counters and fast food restaurants. Some serve customers at food counters, fountains, or in cafeteria lines. Bartenders prepare alcoholic and other drinks for customers. Workers must keep work areas clean, inventory supplies, and may keep records.

5211 SUPERVISORS; FOOD AND BEVERAGE PREPARATION AND SERVICE OCCUPATIONS

These people supervise workers who prepare and serve food in restaurants, hotels, and other eating places. They plan the types and amounts of foods to be prepared, the order in which tasks should be done, and the number of workers needed. They assign duties to workers and check their work. They inspect work areas for cleanliness, and order supplies and equipment as needed. They may be responsible for hiring, training, and firing workers. They may keep time, production and stock records. They also may plan menus and help prepare foods.

SAMPLE WORK ACTIVITIES

- Schedule dining reservations
- Arrange parties or special services for diners
- Escort guests to their tables
- Handle customer complaints
- Assign tasks to dining room workers
- Inspect serving stations for neatness and cleanliness
- Order linens and other dining room supplies for tables and serving stations

- Approve invoices or bills for payment
- Keep records of all the cash received in a day
- Plan banquets, receptions, and other social functions
- Suggest food courses and wines to customers
- Select recipes and plan menus
- Take inventory of supplies and equipment
- Instruct cooking personnel in the fine points of cooking
- Cook and carve meats and prepare food dishes
- Supervise kitchen personnel aboard a ship
- Compile supply, overtime, and cost control records

HOURS OF WORK/TRAVEL

- Some of these jobs may involve early morning , evening, weekend, and/or holiday work.
- A few of these jobs involve food preparation aboard ships and trains. These jobs require travel.

SAMPLE PLACES OF WORK

- Restaurants, clubs, and hotels
- Airline, ship, and train companies
- Schools, hospitals, and other institutions
- Private industries

5212 BARTENDERS

BARTENDERS prepare and serve alcoholic and nonalcoholic drinks for customers in bars, lounges, restaurants, and clubs. They take drink orders from workers who serve customers and from patrons seated at the bar. They mix drinks to order, using many types of liquor plus soft drinks, fruit juices, cream, and soda water. They also serve snacks, order supplies, collect payments, and keep bar areas clean. Those who own their bar keep records, hire, train, and direct staff.

SAMPLE WORK ACTIVITIES

- Mix liquor, soda water, sugar, and other ingredients to prepare cocktails
- Serve bottled beer or draw draught beer from kegs
- Sell unopened bottles of alcoholic beverages to be taken from the premises
- Place bottled goods and glasses to make attractive displays
- Slice and pit fruit for decorating drinks
- Prepare snacks such as pickles, cheese, and cold meats
- Order liquor and supplies
- Wash and sterilize glasses
- Take payments for drinks and return the correct change

HOURS OF WORK/TRAVEL

- Many **BARTENDERS** work overtime.
- Many **BARTENDERS** work at night and on weekends.
- Some **BARTENDERS** work a split shift.
- Some **BARTENDERS** work on a part-time basis.

SAMPLE PLACES OF WORK

- Restaurants and bars
- Hotels
- Private clubs and lounges
- Private parties such as banquets and dances held in restaurants, hotels, or private homes

5213 WAITERS AND WAITRESSES

WAITERS AND WAITRESSES take food and drink orders from customers in restaurants, clubs, and other eating places. They also serve the food and drink to customers, make out checks, and sometimes take payments. Some have other duties as well, such as removing dirty dishes and setting tables.

SAMPLE WORK ACTIVITIES

- Give menus to customers, answer their questions about foods and services, and suggest foods and drinks they might like
- Write food and drink orders on checks or tickets and take them to the kitchen
- Total the charges for foods and drinks and return correct change
- Carve meat, bone fish, and prepare special dishes or desserts at customers' tables
- Take dirty dishes from tables and replace them with clean dishes and linen
- Serve drinks to customers seated at tables in a bar or cocktail lounge.

HOURS OF WORK/TRAVEL

- Some **WAITERS AND WAITRESSES** work split shifts--that is, they work for several hours during the middle of the day, take a few hours off in the afternoon and then return to their jobs for the evening hours.
- Most **WAITERS AND WAITRESSES** are expected to work on holidays and weekends. Many work during evenings or early morning hours.
- Because of the wide range in dining hours, these jobs offer a good opportunity for part-time work.
- **WAITERS AND WAITRESSES** who work aboard ships or trains may travel long distances and spend much of their time away from home.

SAMPLE PLACES OF WORK

- Restaurants
- Clubs
- Lunchrooms
- Hotel dining rooms
- Railroad dining cars
- Passenger ships

5214 COOKS, EXCEPT SHORT ORDER

These people plan menus and cook foods in restaurants, hotels, hospitals, and other places where meals are served. Their duties depend upon the size and kind of establishment. In small restaurants, one cook may prepare all food with the aid of kitchen helpers. In large eating places, kitchen staffs often include several **COOKS** and many helpers. Each **COOK** usually has a specialty. **HEAD COOKS** or **CHEFS** direct kitchen staff, plan menus, and buy food supplies.

SAMPLE WORK ACTIVITIES

- Design and prepare decorated foods and attractive food displays
- Prepare breads, rolls, and biscuits
- Prepare, season, and cook soups, vegetables, meats, and desserts
- Use blenders, mixers, grinders, slicers, and other kitchen tools to prepare foods
- Follow recipes to prepare specialty foods such as fish and chips, tacos, and pastries
- Plan and cook foreign-style dishes, dinners, and desserts
- Use leftover meats to prepare meat loaves and salads

- Mix and measure ingredients to make pies, tarts, and cobblers
- Use a measuring cup, spoon, and scale to measure flour, water, and yeast for pizza dough
- Barbecue pork, beef, and chicken
- Prepare foods for school children to eat
- Mold ice cream or sherbets into shapes
- Prepare special diet foods
- Cook foods aboard a ship or train
- Order supplies and keep records and accounts

HOURS OF WORK/TRAVEL

- COOKS in restaurants and institutions may work during evenings and on holidays and weekends.
- COOKS employed in public and private schools work during the school year only, usually for 9 months.

SAMPLE PLACES OF WORK

- Restaurants and hotels
- Schools and colleges
- Government agencies
- Factories
- Private clubs
- Airport restaurants
- Hospitals and rest homes

5215 SHORT-ORDER COOKS

SHORT-ORDER COOKS work at lunch counters, snack bars, diners, and fast food restaurants. They cook foods that take a short time to prepare, cook, and serve. They also may take food orders from customers and serve the food to them at counters or tables. In some jobs, they have other tasks such as as carving meat, making coffee, and taking payments for foods.

SAMPLE WORK ACTIVITIES

- Take food orders from customers at a lunch counter
- Carve meat and fill orders from a steam table
- Prepare sandwiches and salads
- Prepare beverages at a snack bar
- Serve foods to customers over a counter
- Cook hamburgers and hot dogs
- Fry bacon and eggs
- Take payment for foods or write out charge slips

HOURS OF WORK/TRAVEL

- SHORT-ORDER COOKS may work during evenings, holidays,and weekends.

SAMPLE PLACES OF WORK

- Fast-food restaurants
- Lunch counters
- Snack bars
- Coffee shops
- Diners and dinette shops

5216 FOOD COUNTER, FOUNTAIN, AND RELATED OCCUPATIONS

These people serve foods in places that offer fast service or special food delivery. Some work in carryouts, soda fountains, and cafeterias. Others serve foods to hotel guests or hospital patients in their rooms, or to drive-up customers in their cars. They take food orders, serve food and drinks and may take payments. At soda fountains or diners, they may also cook, fix sandwiches, and prepare ice cream dishes. In cafeterias they fill trays with desserts and salads or meats and side orders.

SAMPLE WORK ACTIVITIES

- Take food orders from drive-up customers and deliver the orders to their cars
- Present checks to customers and take payments for services
- Serve food to diners seated at a counter
- Call food orders into the kitchen and pick up and serve the orders when they are ready
- Prepare fountain drinks, sandwiches, and salads
- Carry foods on trays or carts to deliver them to hotel guests in their rooms
- Serve customers of a take-out counter with food that will be eaten elsewhere
- Serve sandwiches, drinks, and candy to workers in a plant canteen
- Prepare and serve soft drinks and ice cream dishes at a soda fountain
- Clean glasses and dishes
- Prepare food trays and deliver them to hospital patients
- Serve food from counters and steamtables to cafeteria patrons
- Brew coffee and tea
- Use a cash register to total checks

HOURS OF WORK/TRAVEL

- Workers in these jobs often work on weekends and holidays. Some work during the evenings.
- Many COUNTER WORKERS in fast-food restaurants and cafeterias work part-time. Some work split lunch-dinner shifts and have a few hours off in the middle of the day.

SAMPLE PLACES OF WORK

- Fast-food restaurants
- Hotel and motel restaurants
- Coffee shops, all-night diners, and other places where short-order foods are prepared
- Cafeterias
- Hospital food services
- Drug store soda fountains and ice cream parlors
- Drive-in restaurants
- Drive-in theater snack bars
- Canteens in plants, factories, and businesses

5217 KITCHEN WORKERS, FOOD PREPARATION

These workers prepare cold cuts, seafood, salads, fruits, sandwich fillings, and other foods. They work in hotel or restaurant kitchens or other places where foods are prepared. Many specialize in preparing a certain type of food. Some bone and carve meats, for example, or remove shells from seafood. Others make coffee, tea, and hot chocolate or prepare salads, appetizers, and other cold dishes. In large restaurants, they often work under the direction of a head cook or chef.

SAMPLE WORK ACTIVITIES

- Clean and prepare shrimp, oysters, and clams
- Remove meat from lobster shells and arrange it in cocktail glasses
- Mix ketchup, horseradish, lemon juice, and other ingredients to make sauces for seafood
- Use carving knives and meat-slicing machines to carve roast beef and chicken
- Butcher and clean chickens, ducks, and fish

- Cut meat and cheese and weigh them on a scale
- Cut and trim meat to size as ordered by a customer
- Prepare salads, fruits, melons, and gelatin desserts
- Brew coffee, tea, and hot chocolate
- Prepare sandwiches to customer order

HOURS OF WORK/TRAVEL

- KITCHEN WORKERS may sometimes have to work during evenings, weekends, and holidays.

SAMPLE PLACES OF WORK

- Restaurants and hotel dining rooms
- Coffee shops and cafeterias
- Grocery shops, supermarkets, and butcher shops
- Delicatessens and oyster bars
- Catering businesses
- Large ships
- Hospitals
- Colleges and universities

5218 WAITERS' AND WAITRESSES' ASSISTANTS

These people work in restaurants and other places where food and drinks are served. They do many tasks to allow waiters, wait[illegible] and bartenders more time to serve customers. They clear and reset tables, for example, [illegible] carry soiled dishes to the kitchen. They clean up spilled food and broken dishes. They may serve water, bread, and butter to customers and clean coffee pots. Some help bartenders keep the bar supplied with liquor, mixes, and ice. Others carry food and equipment to steamtables and serving counters.

SAMPLE WORK ACTIVITIES

- Carry trays of food to customers' tables in a cafeteria
- Go through a dining room and serve coffee to customers
- Carry dirty dishes from the dining room to the kitchen
- Set tables with silverware, glassware, and fresh linens
- Supply service bars with soups, salads, and desserts
- Serve ice water and butter to patrons
- Clean and polish coffee urns and milk dispensers
- Run errands
- Stock coolers with wines and bottled beer
- Slice and pit fruits used to decorate drinks
- Wash and polish glasses and bar equipment
- Clean up spilled foods

HOURS OF WORK/TRAVEL

- Many workers in this group work during evenings and on weekends and holidays.
- Many of these workers work part-time. Some DINING ROOM ATTENDANTS work only a few hours a day during the lunch or dinner period. Others work both periods but may take a few hours off in the middle of the day.

SAMPLE PLACES OF WORK

- Restaurants
- Bars or taverns
- Hotel dining rooms
- Cafeterias

- Private clubs

5219 MISCELLANEOUS FOOD AND BEVERAGE PREPARATION OCCUPATIONS

These workers do routine tasks to help with food preparation and service. They carry and hand out supplies to kitchen workers, help prepare breads and pastries, wash and peel fruits and vegetables, and wash dishes and pans. They help keep kitchen areas clean and orderly. They may sweep and mop floors, scrub counters, polish silver, defrost and clean iceboxes, and set up banquet tables. Some call out food orders in a drive-in or fast-food restaurant. Some prepare food trays or stock food dispensing machines.

SAMPLE WORK ACTIVITIES

- Assist a baker in a restaurant
  - Carry and hand out supplies, such as flour and baking pans
  - Mix, knead, or shape dough for bread, or rolls
  - Grease pans used to mold or bake breads
  - Place dough in an oven to bake
  - Clean bakery utensils, equipment, and work areas
- Help pastry shop workers prepare pastries
  - Mix and shape dough to make pies, cakes and cookies
  - Wash and cut fruits for desserts and pies
  - Wash and scour pots and pans
- Assist workers who prepare foods for hotels, restaurants, or ready-to-serve packages
  - Wash, peel, cut, and seed vegetables and fruits
  - Clean, cut, and grind meats
  - Dip food items in crumbs or batter to bread them
  - Stir and strain soups and sauces
  - Weigh and measure ingredients
  - Carry pans, kettles and trays of food to work stations
  - Remove garbage
  - Sweep and mop floors
  - Wash worktables, walls, and meat blocks
  - Scrape food from dirty dishes
  - Polish silver and set up banquet tables
- Operate a dishwashing machine in a ship's galley
  - Place glasses in a rack
  - Defrost and clean iceboxes
  - Stock serving stations with dishes and other supplies
- Stock automatic food dispensing machines on passenger trains
- Call out food orders in a drive-in or fast-food restaurant
- Prepare meal trays in a commissary kitchen

HOURS OF WORK/TRAVEL

- These jobs may require evening, weekend, and holiday work.
- Many of these jobs offer opportunities for part-time work.

SAMPLE PLACES OF WORK

- Restaurants and hotel dining rooms
- Bakery and pastry shops
- Ship kitchens
- Hospitals and other live-in insititutions that have kitchens
- Railroad companies
- Food catering businesses

- Butcher shops
- Fastfood restaurants
- Airline terminal restaurants
- Businesses that prepare food for vending machines

523 HEALTH SERVICE OCCUPATIONS

These workers help patients and health professionals. They may assist dentists with procedures or take x-rays. Others may perform tasks in hospitals, such as mixing drug preparations or cleaning work areas. Others may take temperatures, bathe patients, and clean patients' rooms. Some help patients get around, run errands, answer call bells, and, in patients' homes, help with meals and laundry.

5232 DENTAL ASSISTANTS

DENTAL ASSISTANTS work with dentists as they examine and treat patients. They make the patients comfortable in the dental chair, prepare them for treatment, and obtain their dental records. They hand the dentist the proper tools and materials and keep patients' mouths clear by using suction or other devices. They prepare materials for making impressions and restorations, and process x-ray film. They also instruct patients in oral health and prepare instruments for sterilization. Some perform clerical duties as well.

SAMPLE WORK ACTIVITIES

- Take and record medical and dental histories
- Make impressions of people's teeth for the dentist to study
- Sterilize instruments and equipment
- Instruct patients in the care of their teeth and gums, as prescribed by the dentist
- Prepare tray setups for dental procedures
- Keep patient treatment records
- Pour, trim, and polish study casts
- Clean and polish dental tools
- Tell patients how to control plaque
- Keep appointment records and take payments for dental services

HOURS OF WORK/TRAVEL

- Most DENTAL ASSISTANTS work during regular office hours.
- Some DENTAL ASSISTANTS work part-time.

SAMPLE PLACES OF WORK

- Private dental offices
- Dental schools
- Hospital dental departments
- State and local public health departments
- Private clinics
- Federal government offices, especially in hospitals and clinics of the Public Health Service, the Veterans Administration, and the military services

5233 HEALTH AIDES, EXCEPT NURSING

HEALTH AIDES work under the direction of doctors or other health specialists. Their duties range from cleaning work areas and equipment to treating patients and performing clerical tasks. They may mix drug preparations, label medicines, run errands, or assist in examining patients. Some drive an ambulance to pick up and deliver patients.

SAMPLE WORK ACTIVITIES

- Mix drug preparations, as directed by a pharmacist
  - Label drugs, chemicals, and medicines
  - Deliver drug orders and run errands
  - Wash and sterilize bottles, beakers, and other glassware
  - Compute the charges for drugs
- Give massages and heat treatments to patients, as directed by a physical therapist
  - Apply traction devices to patients to relieve their pain
  - Compile information about patients and their progress during therapy
  - Train patients to use crutches, canes, walkers, and wheelchairs
  - Take inventory and order supplies
  - Help plan and conduct programs to restore patients' health
  - Design equipment for clients that will help them be more self-sufficient
- Perform routine lab tasks related to processing blood
  - Examine blood stock to make sure all units are in proper condition
  - Schedule blood processing runs
- Help a doctor during physical exams of patients
  - Write histories of patients' accidents or illnesses
  - Help lift patients onto an examining table
  - Take and record patients' temperature and blood pressure
  - Answer the phone, schedule appointments, and fill out insurance forms
  - Prepare and mail out patients' bills
  - Prepare treatment rooms for the examination of patients
  - Hand instruments and materials to a doctor, as directed
  - Help prepare dressings and develop x-rays
  - Help patients dress and undress
  - Take patients to and from treatment class
- Prepare bodies, specimens of human organs, and the morgue room to help a doctor examine corpses
  - Lay out surgical instruments and lab supplies needed for exams
  - Take fingerprints and x-rays to identify dead persons
- Drive an ambulance to transport sick or injured persons

HOURS OF WORK/TRAVEL

- Some of these jobs may involve evening, night, and/or weekend work. Others involve a standard 35-40 work week during regular office hours.

SAMPLE PLACES OF WORK

- Hospitals and clinics
- Pharmacies
- Doctors' offices
- Morgues
- Medical laboratories

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5236 NURSING AIDES, ORDERLIES, AND ATTENDANTS

These workers perform a variety of duties to care for sick and injured people. They answer patients' bell calls, deliver messages, serve meals, and make beds. They also feed, bathe, and dress patients. They may take temperatures and help patients get around. Some may store or move medical supplies and clean patients' rooms. They may work in hospitals, nursing homes, or patients' homes. In patients' homes they may also clean laundry, plan meals, shop for food, and prepare meals.

SAMPLE WORK ACTIVITIES

- Help women during childbirth
- Care for aged or handicapped patients in their homes
- Wash and iron patients' laundry
- Purchase and prepare foods for people who are recovering from an illness
- Help patients bathe and dress
- Give patients alcohol rubs
- Read to or play cards with patients
- Visit several homes to provide day-to-day health care to patients
- Give first aid to injured workers in a plant
- Serve food trays and feed patients who need help
- Push patients around in a wheelchair or help them to walk
- Hold instruments for doctors and nurses who are treating patients
- Record the liquid intake and output of patients
- Lift patients into and out of beds
- Empty bed pans

HOURS OF WORK/TRAVEL

- ATTENDANTS, ORDERLIES, and AIDES in hospitals usually work 40 hours a week or less.
- Many of these workers must sometimes work during nights, weekends, and holidays.
- HOME ATTENDANTS often work part-time.

SAMPLE PLACES OF WORK

- Hospitals
- Nursing homes
- Private households
- Public health and welfare agencies
- Private health care agencies
- Community health or welfare organizations

524 CLEANING AND BUILDING SERVICE OCCUPATIONS, EXCEPT PRIVATE HOUSEHOLD

Workers in these occupations insure that buildings are safe and clean. They may clean rooms in businesses, hotels, or hospitals. Some do minor repair work, empty trash, and clean floors and restrooms. Others inspect buildings for pests that they exterminate. Other workers operate freight and passenger elevators, give information, and help deliver supplies and equipment as needed. Some workers supervise the work of others, keep records, and order supplies and equipment.

5241 SUPERVISORS; CLEANING AND BUILDING SERVICE WORKERS

These people supervise workers who provide cleaning, maintenance, and other building services in hotels, schools, factories, and other places. They interview, hire, train, and assign duties to workers. They issue supplies and equipment to workers, keep track of supplies on hand, and order more supplies as needed. They check work to see that it meets standards and handle service complaints. They keep time records and may recommend that workers be fired or promoted. They also plan work shifts to meet service demands.

SAMPLE WORK ACTIVITIES

- Check work to make sure it meets standards of cleanliness
- Take inventories of stock to make sure enough supplies are on hand
- Investigate complaints about housekeeping service and equipment
- Examine rooms, halls, and lobbies to see if they need remodeling
- Train new workers in housekeeping duties
- Supervise room preparations for banquets and conventions
- Instruct workers to collect and arrange items needed for a convention, such as furniture, displays, and microphones
- Supervise workers who handle baggage, operate elevators, and clean public areas in a hotel
- Supervise workers who provide housekeeping services for a ship's officers and crew
- Order supplies, such as soap, scrub brushes, and mops
- Supervise workers who provide pest control services

HOURS OF WORK/TRAVEL

- Some of these jobs may involve evening or weekend work.

SAMPLE PLACES OF WORK

- Hotels and motels
- Hospitals and nursing homes
- Schools
- Apartment complexes
- Ship lines
- Manufacturing companies
- Business offices
- Companies that provide housecleaning and maintenance services

5242 MAIDS AND HOUSEMEN

MAIDS and **HOUSEMEN** clean rooms in hotels, motels, hospitals, dormitories, office buildings, and other such places. They also may provide services to guests or residents. They clean wards, bedrooms, baths, offices, and halls. They also deliver laundry, make beds, and replace soiled linens and drapes. They may move and arrange furniture, turn mattresses, and deliver TV sets, cribs, rollaway beds and other items to rooms. Some also may clean swimming pools, driveways, and garage areas.

SAMPLE WORK ACTIVITIES

- Make beds and vacuum carpets
- Wash bedframes, brush mattresses, and remake beds after patients leave the hospital
- Keep storage rooms neat and orderly
- Remove patients' trays and dishes
- Sort, count, and fold towels and other linens in a school dorm, hotel, or beauty parlor
- Move furniture, hang drapes, and roll carpets
- Prepare sample rooms for sales meetings
- Decorate rooms for banquets
- Deliver baby cribs and ironing boards to guests in their hotel rooms
- Collect soiled linens for laundering

HOURS OF WORK/TRAVEL

- In some jobs, **MAIDS** and **HOUSEMEN** may be required to work at night and on weekends and holidays.
- Some **MAIDS** and **HOUSEMEN** work part-time.

SAMPLE PLACES OF WORK

- Hospitals and nursing homes
- Hotels, motels, and tourist homes
- Restaurants and clubs
- School and college dormitories
- Beauty parlors, barber shops, and other businesses

5244 JANITORS AND CLEANERS

JANITORS and **CLEANERS** keep office buildings, hospitals, stores, and apartment houses clean and in good condition. They fix leaky faucets, empty trash, service restrooms, and mow lawns. They also do minor painting and carpentry jobs, wet-mop floors, vacuum carpets, dust furniture, make minor repairs, and kill insects. They use many different tools and cleaning materials. Some do heavy cleaning work. They may wash walls and windows, move furniture, shovel snow, and remove heavy trash.

SAMPLE WORK ACTIVITIES

- Sweep floors and scrub shower stalls in a golf club locker room
- Adjust controls to heat or cool rooms
- Clean soot from chimneys
- Clean rooms where workers shower and change clothes
- Clean and polish lighting fixtures in an office building
- Cut and trim grass at an apartment complex
- Use power equipment to remove snow around office buildings
- Carry supplies to departments in a factory or plant
- Arrange boxes and materials in a neat and orderly manner
- Clean lint, dust, oil, and grease from machines in a plant
- Scrub processing tubs and tanks
- Pick up trash on plant grounds
- Clean lab equipment such as glassware and metal instruments
- Clean walls and ceilings in offices
- Sweep the floors of a cotton-bale plant
- Clean, wax, and polish floors by hand or machine
- Replace furnace filters

HOURS OF WORK/TRAVEL

- Many **JANITORS** and **CLEANERS** work evening hours. Some jobs, however, such as **SCHOOL CUSTODIAN**, call for daytime work.
- In buildings requiring 24-hour maintenance, **JANITORS** and **CLEANERS** may work on shifts.
- Many people in these jobs work part-time.

SAMPLE PLACES OF WORK

- Office buildings
- Factories
- Schools
- Apartment houses
- Hospitals

- Recreation facilities, such as theaters and stadiums
- Firms that supply buildings maintenance services on a contract basis
- Stores and businesses
- Nonprofit organizations
- Utility companies
- Any industry

5245 ELEVATOR OPERATORS

These workers operate elevators to move people and freight between floors in a building. They may also give information and directions to passengers and help them get on and off the elevator. Some may use handtrucks to remove materials and equipment from the elevator and deliver them where they are wanted.

SAMPLE WORK ACTIVITIES

- Push buttons and move levers to control the movement of an elevator
- Open and close the safety gate and door of an elevator at each floor where stops are made
- Tell passengers where to find offices, products, or people
- Sweep or vacuum the elevator
- Load materials onto and off of the elevator

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Department stores
- Office buildings
- Warehouses
- Apartment buildings
- Hotels
- Industrial and commercial firms

5246 PEST CONTROL OCCUPATIONS

Rats, mice, and common household insects, such as flies and roaches, ruin food and spread diseases. Termites eat wood, and mosquitos carry diseases. **PEST CONTROLLERS** protect people and property from these vermin. They inspect and treat restaurants, hotels, food stores, homes, and other places to locate and destroy pests. They use chemicals, poisonous gases, and mechanical traps to kill pests that infect buildings and surrounding areas.

SAMPLE WORK ACTIVITIES

- Release poisonous gas and set traps in buildings to kill termites, beetles, and other pests
- Inspect buildings to identify pests that are causing damage and to determine how to treat them
- Use handtools and power tools to cut openings in buildings to get to infested areas
- Bore holes in concrete around buildings to inject chemicals to kill termites
- Spray chemicals from a tank to kill mosquitos in drainage ditches
- Place poison bait in storm sewers to kill rats
- Measure rooms with a rule to figure out how much bug killer to use and how much it will cost
- Discharge gas into buildings through a hose
- Carry lumber and tools to worksites
- Crawl under buildings to remove litter before spraying there

HOURS OF WORK/TRAVEL

- Some PEST CONTROLLERS work overtime during spring and summer months when more pests are around.
- PEST CONTROLLERS who service restaurants and stores may sometimes work at nights.

SAMPLE PLACES OF WORK

- Private pest control firms
- Federal, state, and local government agencies

5249 CLEANING AND BUILDING SERVICE OCCUPATIONS, N.E.C.

People in these jobs provide services to help keep hotels, motels, lodges, office buildings, apartments, and similar places clean and comfortable. They may perform clerical, housekeeping, or maintenance duties. Some register and assign quarters to guests, collect fees, issue supplies and maintain lawns at a tourist camp, motel, or lodge. Some deliver, install, and service air-freshening devices in apartment, office, and other buildings. Some repair, replace, and clean light fixture parts in these and similar places.

SAMPLE WORK ACTIVITIES

- Perform a variety of clerical, housekeeping, and maintenance duties at a tourist camp, resort or trailer park
  - Inform guests of services and facitities available
  - Register guests, assign them rooms or trailer spaces, and collect rents from them
  - Issue soap, towels, and other supplies to guests
  - Sweep and mop floors
  - Mow lawns and keep recreation areas neat and clean
- Deliver, install, and service air-freshening and air-cleaning devices in buildings
  - Drive a delivery truck to deliver air-freshening devices and chemical refills to customers' buildings
  - Attach dispensers to walls, using handtools
  - Refill dispensers with chemicals that freshen the air
  - Use a wire brush to clean dispensers
  - Clean toilet bowls and washbasins, with brushes, sponges, and cleaners
- Replace parts to light fixtures used in buildings
  - Use handtools to repair switches and sockets
  - Replace bulbs, tubes and switches
  - Clean fixtures and lamps
  - Order and keep a supply or bulbs, tubes, and replacement parts

HOURS OF WORK/TRAVEL

- AIR PURIFIERS and LIGHT FIXTURE SERVICERS typically drive throughout an assigned territory to service buildings in their area. They also may make service trips upon request by businesses.

SAMPLE PLACES OF WORK

- Apartment complexes and office buildings
- Motels, tourist camps, trailer parks, vacation resorts, and lodges
- Companies that provide air deodorizing products and services

- Companies that provide maintenance services

525-6 PERSONAL SERVICE OCCUPATIONS

These workers perform services for others. They may work as hairdressers or barbers, cutting and styling hair or giving manicures and shaves. Others may work in some area of entertainment. They may take tickets at events, usher people to seats, aid performers with costumes, make travel arrangements, or act as tour guides. Others help travelers with luggage, provide social service assistance, or help children with grooming or play in schools, homes, or hospitals.

5251 SUPERVISORS, PERSONAL SERVICE OCCUPATIONS

People in these jobs direct the activities of workers who provide personal services to customers. The workers they supervise may be **CADDIES, AIRLINE ATTENDANTS, PORTERS, USHERS,** or other service workers. Their work duties differ somewhat, depending on the specific job. **SUPERVISORS** plan work schedules, explain company policies to workers, and enforce safety and other rules. They resolve work problems and may assist workers, keep work records, order needed materials, and may hire, train, and fire workers.

SAMPLE WORK ACTIVITIES

- Make sure workers are using the right procedures and materials to cut and style customers' hair
- Direct workers to be polite to customers and to keep their work areas neat and clean
- Order equipment and supplies for workers to use
- Settle customer complaints
- Make out work schedules for hotel **PORTERS**
- Advise workers on what to do when customers make unusual requests
- Hire and train new workers
- Call **BELLHOPS** to take hotel guests to their rooms
- Inspect workers for neatness and uniform dress
- Train workers to lead exercise sessions in a health club
- Prepare contract forms for patrons to obtain health club services
- Assign **CADDIES** to golfers
- Train workers who tend rides at an amusement park
- Supervise workers who deal cards in a gambling house
- Explain gambling rules to patrons
- Keep records of workers' time
- Evaluate workers' performance
- Supervise workers who store guests' coats, hats, and other personal items in a checkroom

HOURS OF WORK/TRAVEL

- Many of these jobs require evening and weekend work.

SAMPLE PLACES OF WORK

- Barber shops and beauty parlors
- Amusement parks and recreation centers
- Theaters
- Gambling houses
- Airline companies
- Health clubs
- Golf courses
- Motels and restaurants
- Hospitality houses
- Any industry or place where personal services are provided

5252 BARBERS

- **BARBERS** cut, trim and style hair. They may also color or straighten hair and fit hairpieces. Many **BARBERS** offer other services, such as hair and scalp treatments, face massages, shaves, and shampoos. As part of their jobs, they must keep their scissors, combs, and other instruments clean and in good condition. They clean their work areas and may sweep the shop as well. Those who own or manage a shop also order supplies, pay bills, keep records, and hire workers.

SAMPLE WORK ACTIVITIES

- Cut, blow dry, trim, and taper hair
- Use scissors, clippers, combs, and blow-out guns
- Put lather on men's beards and shave them
- Use a razor to shape hair around people's temples and necks
- Massage a customer's face, neck, and scalp
- Style customers' hair
- Shampoo and dye hair
- Put shaving lotions on faces and necks

HOURS OF WORK/TRAVEL

- Most full-time **BARBERS** work more than 40 hours a week, and a workweek of over 50 hours is not uncommon.
- Saturdays and lunch hours are usually busy times for **BARBERS**, abut they may take time off during slack periods.

SAMPLE PLACES OF WORK

- Barber shops
- Unisex salons
- Government agencies
- Hotel and department store barber shops
- Military services
- Home barber shops

5253 HAIRDRESSERS AND COSMETOLOGISTS

The main task of **HAIRDRESSERS** and **COSMETOLOGISTS** is to help people look attractive. They shampoo, cut, and style hair and advise on hair care. They often straighten, curl, bleach, or dye hair. They may give manicures and facials; advice on the use of makeup; and clean and style wigs and hairpieces. Most make appointments and keep records of products used by their regular customers. Those who run their own shops hire and supervise workers, keep business records, and order supplies.

SAMPLE WORK ACTIVITIES

- Clean, shape, and polish customers' fingernails and toenails
- Use a brush or applicator to apply bleach, dye, or tint to color customers' hair
- Shampoo hair with water and liquid soap
- Rinse hair with water, lemon, vinegar, or prepared lotion
- Use clippers, scissors, razors, and blow-wave guns to style hair
- Apply waving lotion to hair and wind the hair around rollers
- Shape and color eyebrows and eyelashes
- Read a movie script to decide what hair styles actors and actresses should have
- Create new hair styles for patrons
- Arrange hair on wigs according to pictures or photos
- Spray hair with lacquer to keep it in place
- Apply makeup, beards, and wigs to performers
- Put makeup on movie or TV stars to make them look older or younger

- Apply greasepaint to the arms and legs of performers
- Prepare dead bodies for burial by cleaning and styling hair, giving manicures, and applying makeup

HOURS OF WORK/TRAVEL

- Many full-time **HAIRDRESSERS** and **COSMETOLOGISTS** work more than 40 hours a week, including during evenings and on Saturdays when beauty salons are busiest
- A number of **HAIRDRESSERS** and **COSMETOLOGISTS** work part-time.

SAMPLE PLACES OF WORK

- Beauty salons
- Unisex shops
- Barber styling shops
- Department stores, hospitals and hotels where beauty or hair care services are offered
- Motion picture studios
- For yourself, as an independently employed **HAIRDRESSER** or **COSMETOLOGIST**

5254 ATTENDANTS; AMUSEMENT AND RECREATIONAL FACILITIES

These people provide services to people at amusement or recreational places, such as golf courses, bowling alleys, pool halls, and carnivals. They issue equipment to people and may help them schedule the use of facilities. They collect fees for games played, and inform players of rules concerning dress, conduct, or equipment. They also may repair, sell, or rent out equipment. They may provide services such as carrying golf bags or racking pool balls. They may tend rides at a carnival or fair or entice passers-by to enter side shows.

SAMPLE WORK ACTIVITIES

- Work as a desk clerk at a bowling alley
- Rack pool balls at a poolroom
- Schedule the use of golf courses, tennis courts, and softball diamonds
- Repair, rent, or sell ice skates and equipment at an ice-skating rink
- Tend a powered lift to transport skiers up a slope
- Carry golf bags around a golf course for players
- Drive a vehicle equipped with a trailer that picks up golf balls from a fairway
- Guess the weight of patrons at an amusement park
- Encourage people to take part in games at concession booths in parks, carnivals or similar places
- Try to attract patrons to carnival events by calling out information about the novelty of events
- Tell patrons how to operate rides at a carnival or fair
- Drive a train ride at a park or carnival
- Tend equipment designed to amuse, excite, or mystify patrons of a fun house
- Show patrons how to guide crafts, such as rowboats, canoes, and motorboats
- Collect tickets or cash fare for amusement rides
- Play poker at a gambling house
- Help patrons mount and ride animals at an amusement park
- Drive a horse-drawn vehicle to carry people on sightseeing tours

HOURS OF WORK/TRAVEL

- Many of these jobs involve weekend and evening work. Many jobs offer opportunity for temporary or part-time work.

SAMPLE PLACES OF WORK

- Carnivals, fairs, and other amusement facilities
- Gambling parlors or houses
- Recreation facilities, such as golf courses, tennis courts, sandlot and softball fields, and public parks
- Skating rinks
- Bowling alleys
- Billiard parlors and pool halls
- Ski resorts

5255 GUIDES

GUIDES escort individuals or groups on trips, cruises, and tours. Some take people on trips to hunt, fish, ride horseback, camp, or climb mountains. They may plan these trips and instruct party members. Others escort people around a city or on tours through museums, factories, historical sites, TV stations, or other places of interest. They may make travel arrangements and often point out items of interest. In some jobs, GUIDES direct or escort patients and visitors in a hospital.

SAMPLE WORK ACTIVITIES

- Figure out the best route and sites for hunting and fishing trips
- Arrange horse, boat, plane, or other transportation for fishing trips
- Teach others to use hunting and fishing gear
- Prepare meals at a campsite
- Give first aid to injured fishermen
- Organize and lead a mountain-climbing group
- Instruct people in the use of mountain-climbing equipment
- Plan a foreign trip for tourists
- Help tourists get passports and visas
- Drive a sightseeing bus to art galleries, museums or battlefields and describe points of interest along the way
- Pack horses with supplies for camping trips
- Entertain dude ranch guests with songs and stories
- Escort foreign visitors around a city
- Tell tourists about the size, value and background of historical sites
- Take groups of people through a factory or plant and explain how the machines operate
- Lead tours through radio and TV stations
- Guide plant visitors to offices or departments
- Direct or escort hospital visitors to specific areas in the hospital

HOURS OF WORK/TRAVEL

- GUIDES who lead hunting, fishing, mountain-climbing, or camping parties often work during evenings and weekends. They may travel long distances to conduct expeditions or lead parties.
- GUIDES who escort foreign visitors, lead tour groups in a city, or escort hospital visitors may work on weekends or during evening hours.
- For some GUIDES, work may be seasonal.

SAMPLE PLACES OF WORK

- Travel agencies or businesses that sponsor tours
- Large companies or industries that offer plant tours
- Museums, art galleries, or other places of public interest
- Federal and state agencies or nonprofit organizations that manage or preserve historical or natural sites
- Radio and TV networks and stations
- Vacation resorts and dude ranches
- Hospitals and large clinics

5256 USHERS

USHERS take tickets, give out programs, and escort people to their seats in public places. They also may be responsible for turning away people who do not have tickets. They may work during sports events, movies, plays, concerts or other entertainment events. Sometimes they help people search for lost objects or find the restrooms or telephone.

SAMPLE WORK ACTIVITIES

- Collect tickets and passes from people at an entertainment event
- Refuse to admit people who do not have tickets or who are not properly dressed
- Direct people to their seats
- Give door checks to patrons who wish to leave for a short time
- Count and record the number of tickets collected
- Make sure that only people with press passes get into the press box at a sports event
- Tell theater patrons where the restrooms and telephone are located
- Run errands and get drinks and snacks for people in the press box at a sports event
- Help people find things they lost during a movie or concert

HOURS OF WORK/TRAVEL

- Many USHERS have to work during nights and weekends. Some work during holidays.

SAMPLE PLACES OF WORK

- Theaters that offer movies, plays, operas, and other entertainment
- Any sports stadium, arena, or field
- Carnivals or fairs where admission is charged
- Circuses and rodeos

5257 PUBLIC TRANSPORTATION ATTENDANTS

People in these jobs provide services to plane, ship, bus, train passengers to help keep them comfortable and happy. They greet passengers and explain the use of safety equipment. They may serve refreshments or meals, answer questions about travel schedules, routes, and services. They may assist passengers who are ill or help feed and care for children. They may provide passengers with playing cards, pencils, pillows, or other items. Some collect tickets and direct passengers to their seats.

SAMPLE WORK ACTIVITIES

- Issue sun pads and sports equipment to passengers on the deck of a ship
- Carry baggage to passengers' quarters
- Serve cold drinks and snacks to ship passengers
- Greet plane passengers and assign them to seats
- Explain the use of safety equipment, such as seat belts, oxygen masks, and life jackets
- Serve prepared meals
- Advise passengers of arrival and departure times and boarding gates
- Answer questions about bus schedules, travel routes, and bus services
- Hand out magazines, newspapers, and pillows
- Warm bottles for babies
- Help feed and care for children during a train trip
- Serve snacks in an airline lounge
- Check train passengers' tickets and seat reservations

HOURS OF WORK/TRAVEL

- PUBLIC TRANSPORTATION ATTENDANTS may work at night, on holidays, and on weekends.
- Many FLIGHT ATTENDANTS have 15 days or more off each month, due to limitations on flying time.
- ATTENDANTS who work aboard trains, planes, buses and ships may travel long distances and have to spend nights away from home.
- Some of these jobs involve irregular hours.

SAMPLE PLACES OF WORK

- Railroad companies
- Airline companies
- Bus companies
- Shipping companies

5258 WARDROBE AND DRESSING ROOM ATTENDANTS

People in these jobs take care of performers' costumes. They issue and keep records of costumes and may help performers dress. Some direct jockeys to their dressing rooms and inspect them to be sure they have the correct colors (silks), saddle numbers, and riding equipment. Others unpack and pack entertainers' costumes. They may also clean, mend, and press costumes and arrange them on racks in the order which they will be worn on stage.

SAMPLE WORK ACTIVITIES

- Clean and mend the costumes of the cast of a theater production
- Help cast members put on their costumes
- Go on a show tour to pack and unpack costumes for cast members
- Help costumers select outfits for performers to wear on radio and TV
- Alter and repair costumes by hand or using a sewing machine
- Arrange for entertainers' clothes to be cleaned
- Make sure that jockeys are dressed properly for races
- Direct workers to clean jockey rooms
- Saddle horses for jockeys
- Help jockeys dress for a race
- Clean saddles, wash silks, and shine boots for jockeys

HOURS OF WORK/TRAVEL

- Many people in these jobs work during nights, and weekends. They may also have irregular hours.
- Some workers in this group travel with entertainers to take care of their costumes.

SAMPLE PLACES OF WORK

- Motion picture or TV studios
- Theater companies that put on plays, operas, musicals and other productions
- Race tracks

5262 BAGGAGE PORTERS AND BELLHOPS

These workers carry baggage and perform other simple services for travelers or for hotel guests. **BAGGAGE CHECKERS** check in passengers' luggage at plane, bus, or other terminals. They prepare claim checks, attach them to bags, and stack baggage for loading. **BAGGAGE PORTERS** carry people's luggage onto trains or buses and to cabs and cars. They may also call cabs, assist disabled travelers, and direct people to ticket windows and restrooms. **BELLHOPS** carry bags for hotel and motel guests. They also run errands and deliver messages.

SAMPLE WORK ACTIVITIES

- Use a handtruck to take baggage to hotel guests' rooms
- Arrange for freight to be shipped
- Set up display tables for sales persons in a hotel room
- Arrange for hotel guests' clothes to be cleaned
- Take arriving hotel guests to their rooms
- Tell guests about services available in the hotel
- Explain how TV's, radios, and night locks are operated
- Page guests in the lobby, dining room, and other parts of a hotel
- Prepare baggage claim checks and attach them to luggage
- Weigh and stack baggage
- Fill out baggage insurance forms
- Carry baggage for plane, train, or bus passengers
- Call taxicabs for travelers

HOURS OF WORK/TRAVEL

- **BAGGAGE PORTERS AND BELLHOPS** often work during nights, weekends, and holidays.
- People in these jobs may work part-time.

SAMPLE PLACES OF WORK

- Hotels, motels, travel lodges, resorts, and other lodging places
- Airline, train and bus terminals
- Ship companies that provide passenger service

5263 WELFARE SERVICE AIDES

WELFARE SERVICE AIDES provide social services to help handicapped, ill, aged, or needy people. They advise and assist family members in meal planning, food preparation, child care, and health care. They also help disabled persons dress, get about, and obtain information and services. They may provide these services in people's home, or at hospitals, nursing homes, or social service agencies. They usually work under the direction of social workers.

SAMPLE WORK ACTIVITIES

- Help members of needy families plan and prepare healthful meals
- Advise families on how to train, teach, and discipline children
- Give bedside care to people who are ill
- Train family members to care for a sick relative
- Talk with social workers to plan ways to help families in need
- Explain basic health and cleanliness principles to people
- Drive a car to take blind people where they need to go
- Help blind persons dress
- Keep records of services performed

HOURS OF WORK/TRAVEL

- WELFARE SERVICE AIDES may travel to clients' homes to provide services.
- Some of these jobs require occasional evening and weekend work.

SAMPLE PLACES OF WORK

- State social service agencies
- Public and private welfare agencies, councils, or groups
- Private homes
- Rest homes, special schools, and other facilities that provide services to aged or handicapped people

5264 CHILD CARE WORKERS, EXCEPT PRIVATE HOUSEHOLD

These workers care for children or young adults in such places as boarding schools, orphanages, nurseries, hospitals, and playrooms. They help young children bathe, dress, and eat. They may plan recreational activities for children, instruct them in personal and health habits, and teach them to play games and sing songs. Some assist handicapped children in a school or institution. Others work in sorority or fraternity houses, where they assign rooms to residents, supervise work and study programs, and chaperone trips and social functions.

SAMPLE WORK ACTIVITIES

- Coordinate activities for residents of a boarding school, sorority house, or medical institution
  - Order supplies and determine the need for repairs and furnishings
  - Assign rooms to residents
  - Help plan recreational activities
  - Supervise work and study programs
  - Help residents solve personal problems
  - Chaperone trips and social functions
  - Answer the phone and sort and hand out mail
- Help handicapped children while they are in school
  - Wheel handicapped children to classes, lunchrooms, and treatment rooms
  - Secure children into stretchers and place them in baths or pools for therapy treatments
  - Help children to walk, board buses, eat, dress, and do other physical activities
- Care for children in a public institution
  - Awaken children each morning and see that they get dressed, fed, and ready for school
  - Instruct children in good health and personal habits
  - Lead recreational activities
  - Discipline children
- Organize and lead activities in a nursery school
  - Read to small children and teach them to paint, draw, and sing songs
  - Direct children in eating, resting, and toileting
- Entertain children in the nursery or playroom of a department store, country club, hotel, or theater

HOURS OF WORK/TRAVEL

- Some of these jobs may require evening and weekend work.

SAMPLE PLACES OF WORK

- Nursery schools
- Boarding schools
- Orphanages or live-in institutions for handicapped or exceptional children
- Sorority and Fraternity houses
- Playrooms for children in department stores and other businesses

5269 PERSONAL SERVICE OCCUPATIONS, N.E.C.

People in these jobs provide a wide variety of services to people. For example, some deliver items to guests' hotel rooms. Some post scores at athletic events, or direct patrons to parking spaces at a drive-in movie. Some plan and organize activities for guests at a resort or on a ship. Some chaperone youths attending social functions. Some saddle horses for guests at a dude ranch.

SAMPLE WORK ACTIVITIES

- Deliver packages, laundry, and other items to guests' rooms at a hotel or motel
- Open doors, hail cabs, answer questions, and provide other services to people visiting a store or hospital
- Mow lawns, clean swimming pools, carry supplies, and perform other such tasks at a camp or park
- Give massages to customers at a bath house, massage parlor, or health club
- Check the papers and starting positions of dogs in races and guard the dogs against injury and illegal acts
- Watch players and officals at an athletic event and record the progress of the game on a scoreboard
- Dance and talk with patrons at a dance hall
- Direct patrons to parking spaces at a drive-in movie
- Issue swimsuits, towels, and beach chairs to patrons of a private beach, club, or swimming pool
- Service bathrooms aboard a ship and schedule passengers for baths and showers
- Provide passengers on a railroad sleeping car with lunches, drinks, cards, and other articles
- Provide soap and towels to patrons of restrooms in a store, public building, or hotel
- Plan exercise progrms for patrons at a reducing salon
- Escort youths on trips to dances or sports events
- Escort mourners to a chapel where funeral services are held
- Clean and polish shoes and boots for customers

HOURS OF WORK/TRAVEL

- These people work in a variety of jobs and settings. Work hour and travel requirements vary from job to job, but may include: short or long distance travel and evening and weekend work.

SAMPLE PLACES OF WORK

- Hotels, boarding houses, restaurants, or other businesses which provide special services for their customers
- Gambling houses
- Dance halls
- Dog or horse race tracks
- Drive-in theaters, swimming pools, and other recreational or entertainment businesses
- Funeral parlors
- Railroad companies
- Passenger ship lines
- Dude ranches and other vacation resorts
- Health clubs and spas
- Tattoo parlors
- Businesses that creeate human bodies
- Shoe shine shops and stands

5499 AGRICULTURAL, FORESTRY, AND FISHING OCCUPATIONS

These workers produce or maintain agricultural products and resources. They may run their own farms or manage operations for a cooperative or corporation. Others may hunt, trap, or fish. Some workers tend animals for food or recreational purposes. They may work in non-food agricultural industries as foresters or loggers. Some are groundskeepers or nursery workers. They may operate equipment, inspect crops, keep records, make repairs, and plan production.

55 FARM OPERATORS AND MANAGERS

These workers own, operate, and/or manage farms that grow food and non-food products. They may plan crops and production schedules, buy equipment and supplies, keep farm records, and arrange for the sale of crops. They may hire and supervise other workers, or do some or all of the work themselves. Work may include operating farm equipment and machinery, herding and caring for animals, planting and harvesting crops, and repairing farm buildings and equipment.

551 FARMERS: WORKING PROPRIETORS

These workers own and operate their own farms. They may grow food or non-food products, such as grains, vegetables, livestock, or horticultural products. They decide what is to be grown and the best production methods. They arrange credit, buy equipment and supplies, and plan production schedules. They may hire other workers to help with chores or do most of the work themselves. They maintain farm records and arrange for the sale of crops.

5512 GENERAL FARMERS

GENERAL FARMERS operate farms that produce more than one kind of crop. For example, they may manage a farm that produces fruits, vegetables, grains, and/or livestock. They may own the farm or manage it for a corporation, cooperative, or some other owner. They decide the kinds and amounts of crops to grow and cattle to breed, based on market conditions, weather, and the size and location of the farm. They buy farm equipment and supplies and hire and direct farm workers. They may set up and operate farm machinery, such as trucks, tractors, and harvesters. They also may arrange to sell the farm's products.

SAMPLE WORK ACTIVITIES

- Buy feeds, fertilizers, and farm machinery
- Direct farm workers who till the soil and plant and harvest crops
- Select seeds to be planted and livestock to be bred.
- Decide how many hogs, sheep, chickens, or cattle to breed, based on market conditions
- Help workers hoe and tend field crops such as strawberries, tobacco, or peanuts
- Set up and operate machinery used to plant and harvest crops
- Arrange for crops and livestock to be sold

HOURS OF WORK/TRAVEL

GENERAL FARMERS may be required to work during evenings and on weekends. This is especially true during the harvesting season.

SAMPLE PLACES OF WORK

- Large farms owned by corporations or cooperatives
- Self-owned farms

5513 CROP, VEGETABLE, FRUIT, AND TREE NUT FARMERS

These people own or rent farms that produce one or more crops. They plan and direct the plantings, cultivating, harvesting, and marketing of crops. They select and purchase seed, fertilizer, and farm equipment and machinery. They determine the number and kind of workers to be hired and the land to be tilled. They hire, train, and fire farmhands. They operate and may make minor repairs to farm equipment. They also keep business records and arrange for crops to be sold and shipped.

SAMPLE WORK ACTIVITIES

- Study local growing conditions and market demands to decide what crops to grow
- Decide when and how to plant, cultivate, and irrigate crops
- Explain work techniques and safety rules to farmhands
- Operate equipment to plow, harrow, and fertilize the ground and plant seeds
- Attach farm equipment to a tractor
- Plan harvesting, based on weather conditions and the ripeness of the crops
- Operate harvesting equipment
- Sell crops or store them for future sale
- Arrange with a buyer for the sale and shipment of crops

HOURS OF WORK/TRAVEL

- Many CROP FARMERS may have to work from sunup to sundown during the plantings and harvesting seasons.

SAMPLE PLACES OF WORK

- Farms that produce grain crops, vegetables, fruit and/or tree nuts

5514 LIVESTOCK, DAIRY, POULTRY, AND FISH FARMERS

These FARMERS breed and raise animals and arrange to sell them or their products to buyers. They may raise cats, dogs, horses, wild birds, fish or other animals. Their work duties include: feeding animals; building cages, pens, and fences; cleaning animals, equipment, and grounds; and treating animals for minor injuries or illnesses. They may milk cows, shear sheep, skin snakes or furred animals, or gather eggs or honey. They also may keep records of animals, such as their weight, diet, and breeding.

SAMPLE WORK ACTIVITIES

- Breed cats, guinea pigs, mice, and monkeys
- Clean cages, pens, yards, and hutches
- Examine animals for signs of illness or injury
- Hire an animal doctor to treat animals with serious illness or injury
- Arrange for the sale of animals to hospitals, research centers, pet shops, and food processing plants
- Buy or capture breeding stock
- Kill animals and remove their pelts
- Arrange with buyers for the sale of pelts and breeding stock
- Breed and raise livestock, such as beef cattle, dairy cattle, goats, horses, sheep, or pigs
- Select the pasture, range, and crop lands to graze animals and produce feed crops
- Mix feed and feed supplements
- Castrate, dock, and dehorn animals
- Brand, tattoo, or attach tags to animals so they can be identified

- Clean barns and stalls, and sterilize milking equipment
- Breed and raise canaries or chickens
- Vaccinate poultry against diseases
- Collect, inspect, and pack eggs for shipment
- Breed and raise wild birds, such as pheasant or quail
- Trim the bills of birds to prevent injury
- Exhibit prize birds at shows
- Raise bees to produce honey and pollinate crops
- Breed and raise snakes for shows, or for their venom and skins
- Spawn and raise fish for sale
- Cultivate and harvest beds of shellfish, such as clams and oysters

HOURS OF WORK/TRAVEL

- Owners and operators of farms which raise animals may rarely get the chance to be away, as animals require daily care.

SAMPLE PLACES OF WORK

- Fur farms
- Livestock ranches
- Catering farms
- Poultry farms
- Some bird farms
- Reptile farms
- Worm farms
- Fish farms
- Shellfish farms
- Farms which specialize in breeding and raising animals to be sold to pet stores, research laboratories, or food processing plants

5515 HORTICULTURAL SPECIALTY FARMERS

These FARMERS grow and sell nursery products, such as trees, shrubs, flowering plants, and mushrooms. They use many different types of farm tools, equipment, and machines to plant, tend, and harvest these crops. They also decide the kinds and amounts of crops to grow and select and purchase the equipment and materials needed. Some hire and supervise farm workers and helpers. They also arrange for the sale of crops and may provide customers with instructions in caring for nursery products.

SAMPLE WORK ACTIVITIES

- Select seedlings to plant and grow
- Use cutters and wire to train the branches of small trees to grow into certain shapes
- Plan what acreage to use for growing shrubs or flowers
- Set up work schedules for farm workers
- Hire field workers and assign them to plant, water, or weed flower or tree crops
- Inspect field crops for insects or diseases
- Keep worker and production records
- Arrange with customers for the sale of crops
- Plant and position plants to make attractive displays
- Check devices that control the times plant foods are applied to crops
- See that plants are treated with the proper chemicals
- Cut leaves and stems from parent plants to grow new plants
- Check the heat and dampness in areas where plants are grown
- Use gardening tools and power equipment to plant and cultivate lawns
- Plan the landscape for a private home or business

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Nurseries and greenhouses
- Horticultural farms
- Private homes and businesses

552 FARM MANAGERS

These workers manage farms for corporations, cooperatives, or other owners. They may manage food-producing farms or horticultural farms that raise nursery products. They determine the products to be grown, the size of the crops, and the best production methods. They implement production plans, arranging credit, purchasing equipment and supplies, and hiring and supervising workers. They maintain farm records, conduct inspections, and arrange for products to be sold.

5522 MANAGERS, GENERAL FARM

These people manage large farms that produce crops and livestock. They may manage farms for a corporation, cooperative, or some other owner. They are responsible for raising, harvesting, packing, and marketing the farm's products. They decide on the number of acres to plant or animals to breed, and may arrange with banks to get credit. They buy farm equipment and supplies, hire and fire workers, and prepare reports. They also supervise workers who keep payroll and other records.

SAMPLE WORK ACTIVITIES

- Study market conditions to figure out how may acres to plant
- Talk with bank officials to obtain credit
- Buy tractors, seed, fertilizer and farm chemicals
- Hire and fire farm workers
- Prepare reports that describe how well a farm is doing
- Supervise office workers who prepare payrolls and keep records
- Look at fields to see when crops will be ready for harvesting
- Decide when and where crops should be sold

HOURS OF WORK/TRAVEL

- GENERAL FARM MANAGERS often work long or irregular hours.

SAMPLE PLACES OF WORK

- Any farm, including those owned by large coporations, cooperatives, colleges and universities, and independent owners

5523 MANAGERS; CROP, VEGETABLE, FRUIT, AND TREE NUT FARMS

These people manage farms that produce one or more crops for cash sale. They may manage a farm for a commercial company or for some other owner. They plan and direct the plantings, cultivating, harvesting, and selling of the crops. They buy farm equipment and supplies and keep production and other farm records. They also hire, fire, and supervise farm workers.

SAMPLE WORK ACTIVITIES

- Plan and conduct field studies to develop new types of hybrid crops
- Select and inbreed plants that will produce greater yield
- Talk with farmers to arrange contracts for raising hybrid corn
- Decide what areas of a farm should be planted
- Oversee workers who fertilize land and harvest crops
- Inspect equipment used to clean and grade produce
- Hire, fire, transfer, and promote workers
- Keep records of farm production and parent stock
- Direct the activities of workers who lay out new citrus groves
- Study soil to find out what type of plant food it needs

HOURS OF WORK/TRAVEL

- FARM MANAGERS sometimes work long and irregular hours.

SAMPLE PLACES OF WORK

- Any large crop, vegetable, fruits, or tree-nut farm including:

  - Apple orchards
  - Tomato or strawberry farms or greenhouses
  - Hybrid seed farms
  - Farms owned by large corporations or cooperatives
  - Farms or experimental stations operated by colleges or universities

5524 MANAGERS; LIVESTOCK, DAIRY, POULTRY, AND FISH FARMS

These people manage farms, businesses, or agencies concerned with the raising, breeding, and care of animals. This includes animal breeding companies, dairy farms, fish hatcheries, poultry farms, and game farms and preserves. They plan, develop, and implement policies and procedures for operating these concerns. They direct operations through on-site supervisors. They approve purchases of supplies and equipment, and conduct on-site inspections to make sure that rules and policies are being followed. They also prepare budgets, contracts, and management reports.

SAMPLE WORK ACTIVITIES

- Manage a company that specializes in breeding cows for herd owners

  - Hire, train, and supervise breeding technicians
  - Speak at farm group meetings
  - Judge cattle shows
  - Organize and supervise sales and service activities
  - Publish articles to inform people of new breeding developments
  - Keep customer, breeding, and herd records
  - Collect payments from customers
  - Order supplies, equipment, and materials

- Manage a dairy farm

- Work through supervisors to direct farm activities, such as the breeding of livestock, feeding and milking of cows, and the storage of milk
- Review milk production records to determine cattle that are not productive
- Inspect facilities and equipment to make sure they meet cleanliness standards
- Call an animal doctor when cows are calving
- Prepare farm activity reports for farm owners

- Manage a public or private fish hatchery

- Talk with scientists and fishery workers to get information about fish
- Oversee the trapping and spawning of fish
- Write reports required by State and Federal laws
- Prepare budget reports and receive and disperse funds
- Approve the hiring and firing of workers

- Direct activities at a private or State game breeding farm or game preserve

- Read technical papers to find out about the breeding, rearing, habits, diets, diseases, and treatments of animals

- Direct the selection, pairing, and rearing of game animals

- Examine animals for signs of illness
- Determine the number of birds or animals that must be hunted or killed to keep the proper balance of animals

- Manage a poultry hatchery

- Arrange with farmers to supply eggs
- Prepare hatching schedules, based on market forecasts
- Arrange for the sale of chicks to farmers or businesses

HOURS OF WORK/TRAVEL

- Some of these jobs require routine travel to inspect farms or game preserves within a local area. Some jobs may require travel to speak at farm group meetings or judge cattle shows.
- These jobs may involve some evening, weekend, and overtime work.

SAMPLE PLACES OF WORK

- Public or private fish hatcheries
- Public or private game preserves and breeding farms
- Dairy farms
- Poultry farms or hatcheries
- Companies that specialize in breeding cattle
- Any large farm or corporation that raises or breeds animals

5525 MANAGERS; HORTICULTURAL SPECIALTY FARM

These people manage farms or nurseries where trees, shrubs, flowers, vegetables and similar products are grown. They decide the types and numbers of plants to grow, and select and buy the necessary materials and equipment. They hire and assign duties to workers who plant, raise, and harvest nursery crops. They also direct office activities, such as the preparation of reports, office records, and payrolls. They may arrange contracts for the leasing of land, purchase of trees, or sale of products.

SAMPLE WORK ACTIVITIES

- Plan and direct the operations of tree farms
  - Arrange contracts for the lease of private farm land
  - Purchase wild trees for harvesting
  - Issue instructions to supervisors on the plantings, harvestings, and shippings of trees
  - Contract for trucks to haul trees from cutting areas to sorting yards
  - Hire workers and assign them duties, such as planting seedlings, and pruning, harvesting, and shipping trees
- Manage a nursery at which trees, shrubs, flowers, and vegetables are grown for sale
  - Determine the types and amounts of plants to be grown, based on weather and market demand
  - Select and buy seed, plant food, and disease control equipment
  - Work through supervisors to direct the activities of workers who plant, tend, pot, transplant, and harvest plants
  - Direct clerical, record keeping, accounting, and marketing activities

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Wholesale and retail nurseries
- Garden shops
- Tree farms

56 OTHER AGRICULTURAL AND RELATED OCCUPATIONS

These workers produce, cultivate, and/or harvest agricultural products. They may work as food producers on farms and ranches or as fishers and hunters. Others may work with non-food agricultural products, maintaining grounds, harvesting timber, or trapping for furs. Workers may care for animals for food, recreational, or scientific purposes. Others may grade or inspect agricultural products, operate equipment and machinery, or maintain irrigation systems.

561 FARM OCCUPATIONS, EXCEPT MANAGERIAL

These workers plant and tend crops, care for animals, operate and repair farm machinery, and do general farm chores. They may breed, raise, and harvest marine animals in fisheries and shellfish beds. They may plant, cultivate, and harvest fruits, nuts, grains, or vegetables. Others care for livestock or milk cows. Workers care for farm buildings and machinery, maintain fences and irrigation canals, and drive farm equipment.

5611 SUPERVISORS; FARM WORKERS

These people supervise workers who plant, cultivate, and harvest crops and attend livestock. They plan and direct farm work based on their knowledge of farm procedures, workers, and equipment. They hire and assign duties to workers, enforce safety and other rules, and may perform farm work. They provide workers with required tools and equipment, and may arrange work contracts, housing, and transportation for them. They also may prepare payrolls and keep production records.

SAMPLE WORK ACTIVITIES

- Talk with management to plan the supplies, machinery, and work force needed to produce crops
- Study soil, water supplies, wind currents, and land contours to plan areas to be farmed
- Determine the number and kind of workers needed to perform required work
- Hire and train farmworkers
- Distribute seed to workers and tell them which acres to plant
- Arrange contracts for migrant workers to work on farms during certain seasons
- Arrange for workers to be transported to job sites
- Assign workers to weed, irrigate, and harvest crops
- Supply farm implements and machinery to a field crew and tell them how to cultivate, harvest, and pick crops
- Issue ladders, pruning tools, and picking bags or baskets to workers
- Determine harvesting dates and methods
- Plan and direct the storage and shipment of crops
- Determine the amount and type of feed to give animals
- Inspect stables and animals for cleanliness
- Treat ill or injured animals
- Order supplies, such as animal feed and bedding
- Study animal health records to plan activities, such as breeding, dehorning, and the sale of calves
- Enforce rules to promote safety and prevent waste
- Investigate complaints and settle disputes between workers
- Prepare payrolls and production records

HOURS OF WORK/TRAVEL

- Many types of farming are seasonal in nature. Workers on crop farms may have to work from sunup to sundown during the planting and harvesting seasons. They often work fewer than 6 to 7 months a year and must look for other work during the winter months.
- On farms which raise animals for meat or dairy products, the work is distributed more evenly throughout the year. Since animals must be fed and watered regularly and cows must be milked twice daily, workers may rarely get the chance to be away.
- Some FARM WORKER SUPERVISORS travel with crews of farm workers from one farming area to another. They may spend long periods of time away from home.

SAMPLE PLACES OF WORK

- Farms, including:
  - . Breeding farms
  - . Cattle and sheep ranches
  - . Crop, livestock, and dairy farms
  - . Fish hatcheries
  - . Plant specialty farms
  - . Poultry farms
  - . Private or state game farms
  - . Shellfish farms

5612 GENERAL FARM WORKERS

These people do general farm work. They work with their hands and many kinds of farm equipment. They may drive tractors, trucks, or other farm machines. They plant, tend, harvest, and store crops and care for livestock and poultry. They maintain farm machinery and repair farm buildings, fences, and other structures. They may haul livestock and produce to market. They thin and weed plants, transplant seedlings, irrigate fields, prune trees and shrubs. They also may treat animals for minor injuries and clean barns.

SAMPLE WORK ACTIVITIES

- Attach plows, seed drills, and other implements to a tractor
- Operate farm machinery to till the soil and plant, cultivate, and fertilize crops
- Thin and weed crops
- Mix pest killers, weed killers, and fertilizer and spray them on crops
- Ride a planter and brush debris from plow spouts
- Plant roots and bulbs by hand
- Cover plants to protect them from the weather

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- Set out poles and string wire between them to make fences
- Prune limbs, runners, and buds from trees or vines
- Pick, pull, and cut plants by hand to harvest them
- Clean farm areas and harvesting machines
- Haul feed to livestock
- Repair and maintain tractors, plows, hay balers, and milking machines
- Repair farm buildings, fences, and other structures
- Clean barns, stables, pens, and kennels
- Use a hoe to dig seedlings, such as tobacco plants, strawberries, tomatoes, and orchard trees
- Shovel earth to clear irrigation ditches
- Stack loose hay, using a pitchfork

HOURS OF WORK/TRAVEL

- **WORKERS** on crop farms may have to work from sunup to sundown during the planting and harvesting seasons. They often work fewer than 6 to 7 months a year, and must find other work during winter months.
- On farms which raise animals for meat or dairy products, the work is generally steady throughout the year. Because animals must be fed and watered regularly, **FARM WORKERS** are needed year round.

SAMPLE PLACES OF WORK

- Tobacco, strawberry, asparagus, and meat farms
- Wheat, corn, soybeans, and peanut farms
- Cattle ranches and dairy farms
- Poultry farms
- Any farm

5613 FIELD CROP AND VEGETABLE FARM WORKERS (HAND)

These workers plant, care for, harvest, and store field and vegetable crops by hand. Often, they work as part of a crew of field workers. They do such things as plant roots and bulbs, transplant seedlings, and set up and string bean poles. They may pick crops and carry armloads of them to collection points. They may load and unload trucks and carry supplies to workers in the field. They also may repair fences and buildings and clean farm machines.

SAMPLE WORK ACTIVITIES

- Weed and thin crops, using a hoe
- Remove tassels, suckers, and weeds from crop areas
- Carry bags and bailing wire to workers in the fields
- Clean irrigation ditches, using a shovel
- Repair fences and buildings, using carpentry tools
- Clean and grease farm machines
- Dump seeds into the hopper of a planter
- Ride on a planter and brush dirt from spouts that push the seeds into the ground
- Plant roots and bulbs, using a hoe and trowel (flat tool with a handle)
- Cover plants with paper or cloth to protect them from the weather
- Set bean poles and string them with wire or twine
- Tie vegetables in bunches
- Remove the tops from root crops
- Harvest cucumbers, onions, lettuce, and sweet corn using a knife
- Carry armloads of vegetables to collection points
- Cut seed potatoes into sections to be planted
- Pack crops in containers
- Sharpen hoes, using a grinding wheel and hand file
- Pour fertilizer or pest killers into spray containers

HOURS OF WORK/TRAVEL

- These workers often have to work from sunup to sundown during the planting and harvesting seasons.
- FIELD CROP WORKERS often work fewer than 6 to 7 months a year, and must find other work during winter months.

SAMPLE PLACES OF WORK

- Any field crop or vegetable farm, including:
  - Cotton farms
  - Hops farms
  - Potato farms
  - Rice farms
  - Tobacco farms
  - Vegetable farms
- For a large corporation that owns many farms

5614 ORCHARD AND VINEYARD AND RELATED WORKERS (HAND)

These people work on farms that produce fruit or nut crops. They do much of the physical labor on these farms. They plant, cultivate, spray, prune, and harvest crops. They may lay irrigation pipes to supply water to the crops or light torches to heat them in cold weather. They also may do such things as repair fences and buildings, load and unload trucks, clean and adjust farm machinery, and clear and burn brush. Some work from ladders or platforms or crawl between plant rows to pick ripe fruits or nuts.

SAMPLE WORK ACTIVITIES

- Plant, cultivate, and harvest crops, such as cranberries, apples, and pecans
- Use shovels, hoes, pruning hooks, and shears to plant and prune trees and bushes
- Spray plants with chemicals to control diseases and insects
- Remove blossoms from plants to improve fruit quality
- Lay out irrigation pipes and install sprinklers
- Repair wire fences and farm buildings, using handtools
- Clean, grease, and adjust weeders and harvesters
- Clear and burn roots and brush
- Harvest cherries, strawberries, grapes, or oranges by hand
- Carry ladders and buckets to work areas
- Select fruit to be harvested, based on size, shape, and color
- Shake trees and vines to remove fruit
- Place fruit into bags, buckets, or trays
- Empty filled containers into collection boxes and bins
- Measure fruit, using gauges
- Collect fallen nuts into piles, using a rake
- Use handsaws, pruning shears, and long-handled clippers to cut dead branches from trees
- Climb trees, using climbing hooks and belts

HOURS OF WORK/TRAVEL

- Many FARM WORKERS have to work from sunup to sundown during the planting and harvesting seasons. They often work fewer than 6 to 7 months a year, and must find other work during winter months.

SAMPLE PLACES OF WORK

- Any orchard or vineyard, including:
  - Apple, pear, or peach orchards
  - Cherry orchards
  - Cranberry farms
  - Grape vineyards
  - Orange and other citrus groves
  - Walnut and pecan orchards

- Companies that provide tree-care services to farms and orchards
- Large corporations that operate many fruit or tree farms

5615 IRRIGATION WORKERS

IRRIGATION WORKERS work on farms in areas that do not get much rain all during the year. They water crops by controlling the flow of water from irrigation ditches to the fields. They also set up and operate sprinkling systems that pump water through pipes spread on the ground. After a field area is watered, they move the pipes to the next section or field to be watered. These workers also do such things as shovel dirt to fill or clear holes, build levees to keep water from overflowing, and grease and oil pumping equipment.

SAMPLE WORK ACTIVITIES

- Flood fields with water, using pipe sections that are connected to an underground waterline
- Connect pipe sections, using a wrench
- Start a motor that pumps water through a pipeline system
- Adjust valves to control the rate at which water flows onto fields
- Shovel dirt into holes and low spots in levees
- Build levees to keep water from overflowing onto a highway
- Grease and oil pumping equipment
- Lay out strings of pipe in a field
- Watch moving sprinklers to make sure that water is sprayed evenly over all areas
- Move sprinkler systems from field to field
- Shovel or hoe soil to clear ditches so that water can flow through them

HOURS OF WORK/TRAVEL

- **IRRIGATION WORKERS** may have to work overtime during extended dry spells.
- Sometimes, **IRRIGATION WORKERS** have to find other jobs during winter months.

SAMPLE PLACES OF WORK

- Farms, including: Cotton, soybean, grain, or other field crop farms
  - Vegetable or fruit farms
- For a large corporation or cooperative that owns one or more farms
- For a college or university that runs experimental farm stations

5616 FARM MACHINERY OPERATORS

These people operate machinery to plant, cultivate, spray, and harvest crops. This machinery includes harvesters, threshers, pruning saws, and similar farm equipment. They attach plows or other implements to tractors or other vehicles and drive the machinery in the fields. They may repair and adjust the machinery. They also may perform other farm tasks, such as loading and unloading materials, husking and shelling corn, or hoeing row crops.

SAMPLE WORK ACTIVITIES

- Drive and/or operate farm machinery to:

- Attach farm implements, such as a plow or disc, to a tractor and drive the tractor to the fields
- Tow harvesting equipment
- Prepare harvesting machines by adjusting the speed of cutters, blowers, and conveyors
- Move switches, pull levers, and turn knobs and wheels to start and control farm machinery
- Load materials into machines used to plant crops
- Load fertilizer and weed killer into an airplane, so they can be sprayed onto fields
- Set mowing controls on a combine to cut and thresh rice
- Mix chemicals used to spray trees and vines to control weeds and insects
- Use pruning saws and clippers to remove excess growth from trees
- Load and unload trucks and repair building and fences
- Oil and repair farm machinery
- Husk and shell corn

- Drive and/or operate farm machinery to:

- Plant, harvest, and store crops
- Level land, till soil, and build ditches
- Cover seeds dropped by an airplane with dirt
- Transfer grain from a combine hopper to a grain truck
- Flood field sections to irrigate them
- Thin, hoe, and weed row crops, using hand implements
- Transport materials, supplies, workers, and products
- Cut potatoes into sections for use as seed
- Move and treat straw, manure, and dirt used in mushroom beds
- Operate a truck-mounted sprayer to cover fields with seed, fertilizer, and mulch
- Separate crops from waste materials
- To clean farm crops
- Threshe and bale broomcorn straw

HOURS OF WORK/TRAVEL

- These workers often work from sunrise to sunset during the planting and harvesting seasons.
- Farm workers often work fewer than 6 to 7 months a year, and have to find other work during winter months.

SAMPLE PLACES OF WORK

- Any large farm, including:

- Dairy farms
- Fruit and tree nut farms
- Grain farms
- Orchards
- Soybean, peanut, rice or tobacco farms
- Vegetable farms

- Corporations that own several farms

5617 LIVESTOCK WORKERS

These workers help in the breeding, care, and marketing of livestock. They feed, clean, and groom animals and maintain farm buildings and equipment. They may vaccinate animals and treat them for minor injuries. They may herd animals to pastures or shipping points. They may help birth animals, brand them and keep their breeding or feeding records. They may milk cows, collect eggs, or do similar tasks. Much of their time may be spent washing pens, stalls, and other areas where animals are housed.

SAMPLE WORK ACTIVITIES

- Help sheep give birth to lambs
- Attend to cattle, sheep, hogs, and goats on a farm or ranch
- Mix feed, fill feed troughs, and water livestock
- Herd livestock to pasture for grazing
- Examine animals for signs of illness or injury
- Wash and clip livestock

- Clamp metal rings into animals' noses to make them easier to handle
- Clean stalls and sheds
- Repair fences and watering troughs
- Train saddle horses
- Drive livestock to pens, trucks, and railcars, using an electric prod and a whip
- Weigh animals and record their weight
- Scatter sawdust and straw in pens or trucks
- Wash cows and spray with insect repellants
- Scrape dirt from the walls and floors of a dairy
- Sterilize milk containers and equipment
- Shear wool from sheep, using power clippers
- Tend a milking machine
- Skin foxes, weasels, or mink
- Clean up droppings and waste in a chicken farm
- Place eggs in an incubator to hatch
- Tie the wings of wild birds to keep them from flying
- Gather worms to be used as fish bait
- Hitch horses to wagons
- Pack earthworms in containers

HOURS OF WORK/TRAVEL

- Employment in these jobs is usually fairly steady throughout the year, as animals require constant care.

SAMPLE PLACES OF WORK

- Cattle farms and ranches
- Dairies
- Horse, sheep, goat, and other animal ranches
- Poultry farms
- Private and State game farms and preserves
- Worm farms

5618 MARINE LIFE CULTIVATION WORKERS

These workers catch, breed, care for, and harvest marine life. They work in places such as fish hatcheries, shellfish beds, and shrimp ponds. They catch, select, sort, and feed water animals; prepare marine life for shipping; and clean and repair breeding equipment and storage tanks. They may use equipment such as nets, shovels, and handtools. They may catch fish from a powerboat or by walking in water and feeling for shellfish with their bare feet. They may patrol breeding areas to prevent animals from harming crops.

SAMPLE WORK ACTIVITIES

- Secure nets on river banks to direct fish into holding ponds
- Catch fish with a hand net
- Squeeze female fish to release their eggs into a pail
- Fill hatchery trays with fertilized eggs and place the trays in a incubator
- Adjust the volume, depth, and temperature of water containing fish
- Inspect fish eggs and pick out dead and off-color eggs
- Sort fish according to size, coloring, and species
- Scatter food over the surface of water to feed fish
- Watch fish to see is they are developing diseases
- Transfer mature fish to lakes, using a tank truck
- Drain and clean ponds and troughs, using brushes, chemicals, and water
- Make minor repairs to hatchery equipment
- Paint buildings and maintain grounds at a fish hatchery
- Gather shellfish and drop them into a container
- Drag equipment behind a boat to pull shellfish from mud
- Pack and ice shellfish in containers for shipment
- Unload loose shellfish from a boat, using a shovel
- Raise crabs for food markets by catching them from the sea and keeping them in tanks until they grow

- Fence ponds to keep marine life from escaping
- Patrol shrimp ponds on foot or by motorboat to detect animals which might harm the shrimp
- Remove trash, seaweed, and harmful animals from water where fish are grown

HOURS OF WORK/TRAVEL

(No information)

SAMPLE PLACES OF WORK

- Government or private fish hatcheries
- Shrimp hatcheries
- Companies or individuals involved in raising and/or breeding fish or shellfish for sales

5619 NURSERY WORKERS

NURSERY WORKERS plant, cultivate, harvest, and care for trees, shrubs, and flowering plants. They work in nurseries, green houses, tree farms and other places where plants are grown for sale. They prepare the soil and plant, spray, weed and water plants. They also harvest, pack, transport, and store plant crops. They may drive and operate farm machinery. They may trap and poison plant pests and tag plants for identification. They also may help cut and saw tree limbs.

SAMPLE WORK ACTIVITIES

- Drive a tractor to till the soil and plant, cultivate, and spray flowers grown from bulbs
- Operate a harvesting machine to dig up flower bulbs
- Set flowers in water troughs, cartons, and containers
- Use a handtruck to move flowers and bulbs to different areas in a greenhouse
- Drive a truck to deliver products
- Repair and paint farm structures
- Wash, paint, oil, and help repair farm machinery
- Sow seeds and plant cuttings
- Check plants and soil for germs and insects
- Adjust fertilizer timing devices
- Read indicators that show how much dampness is in the air
- Prune and transplant plants
- Work as a member of a crew to hand harvest flowers, such as daffodils and tulips
- Dig, rake, and screen soil to prepare it for planting
- Fill growing tanks with water
- Sow grass seed
- Trap and poison pests, such as moles, gophers, and mice
- Tie, bunch, wrap, and pack flowers
- Use a wheelbarrow to move shrubs and trees
- Record the names of plants and the dates they were planted
- Hand tools to a tree surgeon or tree pruner
- Lower tree limbs and trunk sections, using ropes

HOURS OF WORK/TRAVEL

(No information)

SAMPLE PLACES OF WORK

- Nurseries
- Greenhouse
- Plant or lawn and garden stores
- Tree farms

- For a tree surgeon

562 RELATED AGRICULTURAL OCCUPATIONS

These workers care for plants or animals. They may work in parks, greenhouses, cemeteries, or golf courses where they plant shrubs, trim grass, or groom walkways. Others work with animals used for recreation, sporting, exhibition, or research purposes. They feed and groom animals, and check them for disease or injury. Some workers sort and grade agricultural products while others inspect fields and farms for pests that damage produce and animals.

5621 SUPERVISORS, RELATED AGRICULTURAL WORKERS

These people supervise workers who care for plants or animals at places other than farms. For example, some supervise workers who keep up the grounds at a cemetery, park, or golf course. Others supervise workers who care for animals at a zoo or circus. They study assignments and determine the workers and supplies needed to complete them. They plan work schedules, assign duties, explain tasks, and check completed work. They enforce safety rules, handle problems and complaints, and keep work records. They also may hire and fire workers and prepare work reports.

SAMPLE WORK ACTIVITIES

- Supervise workers who prepare graves and maintain the grounds in a cemetery
  - Talk with a manager to plan and schedule ground work
  - Determine the workers and equipment needed to dig graves and place markers
  - Check work in progress to make sure instructions are being followed
  - Show workers how to prune shrubs, finish cement, and use casket-lowering devices
- Supervise workers who maintain the grounds in a park, botanical garden, or playground
  - Plan landscaping tasks
  - Instruct workers in the care, plantings, and pruning of trees and flowering shrubs
  - Direct workers in the upkeep and repair of walks, hedges, swings, and other park equipment
- Supervise workers who take care of the grounds at a golf course
  - Talk with managers to plan and review work projects
  - Assign workers to fertilize, water, seed, mow, and rake the grounds
  - Mix spray solutions
  - Plan changes in a golf course
  - Review soil test results to see what chemicals are needed to treat the soil
- Supervise workers who provide grounds-keeping services on a contract basis
  - Investigate customer complaints
  - Suggest changes in work procedures and order corrective work done
  - Prepare service estimates
  - Prepare work reports for management
- Supervise workers who remove trees that interfere with electric powerlines
  - Examine work orders to find out the location of trees to be pruned or felled
  - Drive a truck to transport a crew to worksites
  - Direct the placement of rigging used to hoist tools to workers in trees
  - Keep daily work records
- Supervise workers who care for and show birds and animals at a zoo or circus
  - Watch animals for signs of illness
  - Oversee the treatment and feeding of animals
  - Order supplies

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Apartment complexes
- Cemeteries
- Circuses and zoos
- Federal, state, and private parks
- Firms that provide tree removal and related services
- Golf courses
- Light, heat, and power companies
- Motion picture studios
- Museums and botanical gardens

5622 GROUNDSKEEPERS AND GARDENERS, EXCEPT FARM

These people take care of lawns, trees, shrubs, flower gardens, and grounds in such places as parks, greenhouses, golf courses, cemeteries, or estates. They may also care for buildings and equipment in these places. Depending upon the specific job, their work duties may range from planting trees, flowers, and shrubs to mowing grass and digging ditches. They may also shovel snow, pick up litter, and repair fences and walks.

SAMPLE WORK ACTIVITIES

- Plant and tend trees, shrubs, and flowers in special display areas
- Seed and mow lawns, rake leaves, and keep grounds free of litter
- Cut turf on golf course greens with a hand, power, or riding mower
- Dig graves, using a pick, shovel and hoe
- Shovel snow from walks and driveways
- Keep park areas, trails, walks, and paths in good condition
- Trim hedges, walkway edges, using handtools or hand-held power tools
- Repair fences, gates, walls, and walks

HOURS OF WORK/TRAVEL

- Generally, these jobs do not require travel.
- Most of these jobs involve a standard 35-40 hour work week. However, part-time work may be available.

SAMPLE PLACES OF WORK

- Apartment complexes
- Real estate companies
- City or town museums
- Botanical gardens
- Motion picture studios
- Large businesses
- Amusement parks
- Cemeteries
- Golf courses
- Private estates

5624 ANIMAL CARETAKERS, EXCEPT FARM

These people care for and groom pets and animals kept for sporting, recreation, exhibition, or research purposes. They feed and groom the animals and check them for signs of injury or illness. They may record such information about them as their bloodline, diet, weight, and medical history. They may clean, build and repair pens. They may sterilize equipment used to treat animals. They may exercise animals and unload and store feed and supplies. They may shoe animals' hooves or trim their toenails.

SAMPLE WORK ACTIVITIES

- Attend to the needs of animals in a kennel, pound, hospital, or lab
- Feed and water animals according to a schedule
- Examine animals for signs of illness and treat them acording to instructions
- Adjust the temperature and dampness in animals' quarters
- Give shots to animals
- Bathe, shave, clip, and groom animals
- Measure and mix feed and feed supplements, according to instructions
- Brush and curry animals' coats to clean them and improve their appearance
- Exercise animals
- Feed, water, and clean the quarters of animals and birds in a zoo or circus
- Fit, shape, and nail shoes to animals' hooves
- Remove worn shoes from horses' hooves
- Groom dogs by combing, clipping, and trimming their coats
- Talk to animals to calm them
- Wash dogs, using perfumed soap or shampoo
- Attend fish and other animals in an aquarium
- Clean fish tanks

HOURS OF WORK/TRAVEL

(No information)

SAMPLE PLACES OF WORK

- Pet stores
- Veterinarians' offices
- Animal hospitals
- Kennels and catteries
- Pounds
- Circuses, zoos, and amusement parks
- Blacksmiths' shops
- Animal research laboratories
- For yourself, as a self-employed **ANIMAL CARETAKER**

5625 GRADERS AND SORTERS; AGRICULTURAL PRODUCTS

People in these jobs sort farm products into groups based on their size, weight, color, or condition. They sort such products as fleece or wool, cotton, clams, fruits, nuts, bulbs, or vegetables. They sort these products either before they are processed or before they are marketed. They also may dispose of dirty or damaged products and bunch, tie, or trim products.

SAMPLE WORK ACTIVITIES

- Separate fleece or wool according to how clean it is
- Look at cotton samples to see if they are the right color and to check for sand, dirt, and other foreign matter
- Measure tufts of cotton and check to see how fine its fibers are
- Sort cotton fibers according to certain grades
- Look at cotton fibers through a microscope to see if the cotton is ready for processing

- Record the grades of cotton on ID tags and shipping or sales slips
- Stand at a conveyor belt or on the deck of a dredge and sort clams
- Work with others at a table or conveyor belt to sort bulbs, fruits, nuts, or vegetables by grade, color, and size
- Bunch, tie, and trim produce such as asparagus, carrots and celery
- Pick out the best looking produce to be used on the top layers of boxes
- Shake fleece to remove dust
- Pick burs, sticks and strings out of wool

HOURS OF WORK/TRAVEL

- Generally, these workers have a standard 35-40 hour work week.

SAMPLE PLACES OF WORK

- Sheep ranches
- Wholesale companies that handle farm produce
- Textile mills
- Canneries

5627 INSPECTORS; AGRICULTURAL PRODUCTS

These workers inspect farm products for quality before they are sold. They also try to make sure that products which are to be sold are in good condition. Some search through fields, brush, trees, and warehouses to locate and kill insects, weeds, or other pests that can harm farm products. Others work in fields or sheds where they inspect and grade farm products and dispose of poor products. In still other jobs, workers inspect poultry farms to make sure they are clean and that chickens and eggs are free from diseases.

SAMPLE WORK ACTIVITIES

- Search fields and warehouses to find and kill boll weevils and army worms
- Use spray equipment and chemicals to kill insects and insect eggs
- Collect samples of infected soil to be studied in a lab
- Locate and destroy harmful weeds in roadsides and ditches
- Count the number of insects on plants within an area
- Inspect carrots, rose bushes, and tobacco to see if they meet standards
- Look at, feel, and smell farm products to determine if they are in good condition
- Place defective products in waste containers
- Tour farms to see if they are efficient and clean
- Recommend lab tests of diseased chickens and feeds

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Federal or state government agencies
- Any large farm
- Agricultural consulting firms

57 FORESTRY AND LOGGING OCCUPATIONS

These workers harvest forest products. They may cut timber, clear land, or fell trees. Others trim logs or treetops. They operate machines to cut and haul lumber. Others sort, load, move, or store logs at logging sites or in lumber yards. They may bind logs into rafts, load logs onto conveyors, stack logs, or determine how many trees are available for cutting. Some workers plant and care for forests or stands of trees. They grade trees and harvest seedlings.

571 SUPERVISORS, FORESTRY AND LOGGING WORKERS

These people supervise workers who fell trees and harvest forest products. They also supervise workers who operate material moving equipment at logging sites. They study production schedules and decide how many worker hours will be needed to complete jobs. They interpret policies and enforce safety rules. They assign duties to workers, evaluate their work, and help solve work problems. They also hire, train, and fire workers and keep time and production records.

SAMPLE WORK ACTIVITIES

- Tour land tracts and estimate how many worker hours it will take to plant, cultivate, or harvest trees
- Talk with management to report land conditions and to get planting instructions
- Train workers to plant, shear, and harvest trees
- Direct workers to store different grade, or size species of trees
- Oversee work activities to make sure they meet company standards
- Arrange for logs to be transported
- Train workers to fell trees and operate tractors and loading machines
- Instruct workers in safety techniques
- Inspect rigging for defects and unsafe conditions
- Direct workers to repair or replace faulty rigging
- Inform workers of the order in which logs should be removed
- See that equipment is moved to a new site after work at the current site is finished

HOURS OF WORK/TRAVEL

(No information)

SAMPLE PLACES OF WORK

- Logging companies
- Lumber mills
- Tree farms
- Forest nurseries

572 FORESTRY WORKERS, EXCEPT LOGGING

These workers plant and care for trees. They also may harvest forest products such as Christmas trees, cones, bark, and moss. Some work on tree farm where they clear land, plant seedlings, and prune and fell trees. Some harvest seedlings by walking along rows of trees and digging clumps of seedlings from the soil. Some work as **FORESTER AIDES**. These workers compile information on forest areas, clean campsites, and perform other duties to protect and maintain forest areas.

SAMPLE WORK ACTIVITIES

- Plant, cultivate, and harvest trees at a tree farm or forest nursery

  . Remove brush, ferns, and other growth from planting areas
  . Plant seedling trees to reforest land
  . Scatter fertilizer over planted areas
  . Shear limbs from trees, using a machete and pruning shears
  . Select trees for cutting, according to size, type, or shape
  . Fell trees, using an ax or chainsaw
  . Drag trees from cutting areas and load them onto trucks
  . Grade and tag trees in a sorting yard
  . Harvest tree seedlings in a forest nursery

- Compile information on the size, content and condition of forest lands

  . Walk in a forest to gather information about the land and number of trees ready for harvest
  . Mark trees for logging
  . Record rain, temperture, and soil-moisture gauge readings
  . Help clear and survey property lines
  . Train conservation workers to plant seeds, put out fires and clean forest areas
  . Cut down diseased trees
  . Spray trees with chemicals
  . Clean campsites and put up signs and fences

- Gather greens, tree cones, herbs, moss, and other wild plant life by hand

  . Climb trees to reach cones and tree boughs
  . Bundle or sack products and deliver them to a buyer

HOURS OF WORK/TRAVEL

- FORESTRY AIDES sometimes must work in remote areas for long periods of time. In emergencies, such as when fighting fires or controlling floods, they may have to work as many hours as they are physically able.
- FORESTRY WORKERS may work part time.

SAMPLE PLACES OF WORK

- Christmas tree farms
- U.S. Forest Service
- State governments
- Logging, lumber, and paper companies
- Tree nurseries
- Reforestation projects of mining, oil, and railroad companies
- For yourself, as a self-employed FOREST PRODUCTS GATHERER

573 TIMBER CUTTING AND RELATED OCCUPATIONS

People in these jobs cut down trees, clear brush, and saw and trim logs. They clear land to prepare it for utility lines or for buildings, farming, or forestry sites. Some work at logging sites, saw mills, or lumber companies. They may climb trees and use saws or pruning shears to trim treetops. They may fell trees, using an ax or saw. They may operate machines and vehicles to cut and haul timber. They may saw and chop up branches and load them on a truck. They may split logs into posts or stakes.

SAMPLE WORK ACTIVITES

- Trim trees to clear the right-of-way for utility lines

- Climb trees to reach branches near wires and transmission towers
- Prune treetops, using saws or pruning shears
- Remove broken limbs from wires, using a pole
- Fell trees that interfer with power service, using a chainsaw

- Cut trees, brush and other growth to clear land for construction or forestry activities

- Hoist tools to a tree trimmer
- Position and steady ladders used by a tree trimmer
- Saw and chop up branches and load them on a truck
- Determine the position, direction, and depth of cut to be made to fell trees
- Clear brush and debris from the work area, using an ax and chainsaw
- Drive wedges behind a saw to start a tree falling

- Operate a logging tractor to fell trees

- Saw felled trees into lengths
- Drive a tractor or horses to skid logs to a landing
- Load logs onto a truck by hand or using a winch
- Split logs into posts or stakes
- Stack wood in cord lots
- Measure and mark logs for sawing
- Harvest tanbark by stripping the bark from trees with an ax

HOURS OF WORK/TRAVEL

- Logging and lumber mill workers may lose working time due to heavy rain, snow, or extreme temperatures.

SAMPLE PLACES OF WORK

- Any business or industry that does its own land clearing work
- Companies that harvest pulpwood
- Farming operations
- Logging companies
- Lumber mills
- Paper mills
- Power companies
- Saw mills
- Telephone and telegraph companies
- Wood distilling companies

579 LOGGING OCCUPATIONS, N.E.C.

People in these jobs sort, load, move, and store logs and perform related tasks at logging site or lumber yards. Some measure and mark logs, assemble logs into rafts so they can be towed to a mill. Some determine how much timber is available for marketing. Some load logs onto skids or conveyors to be moved to cutting or shredding machines. Some signal workers where to place logs brought to a landing. Many of these workers use axes, saws, and other logging tools and equipment.

SAMPLE WORK ACTIVITIES

- Measure and mark logs or felled trees for cutting into sawlogs, or veneer blocks

- Inspect trees and logs to determine waste
- Mark cutting areas on logs, using a measuring tape and crayon
- Estimate the marketable content of logs
- Use a scale stick to measure entire loads of pulpwood
- Determine the total board feet of wood lots, using a conversion table
- Inspect log knots and other defects

- Assemble floating logs into rafts for towing to a mill

- Use a power-driven auger to bore holes in logs
- Bind logs into rafts with a chain or cable
- Float logs into designated areas with a pike pole

- Mark logs in a river or pond to show their ownership and intended use

- Brand the ends of logs with an ax that has raised characters on its head
- Paint marks on the ends of logs, using a spray can

- Walk through forest land to gather information about forest conditions

- Sight over a scale stick to estimate the height and diameter of each tree in a sample lot
- Prepare reports on timber types and sizes and the condition of forest land

- Select seasoned logs and load them onto skids and conveyors
- Direct the placement of logs brought to a landing

- Signal workers where to drop logs on a landing
- Cut knots and limbs from logs, using an ax and chainsaw
- Fasten cables around logs so they can be moved
- Stack logs in piles

HOURS OF WORK/TRAVEL

- Most logging jobs are outdoors. Sometimes, working time and pay may be lost because of heavy rain, snow, or extreme temperatures.

SAMPLE PLACES OF WORK

- Logging mills and camps
- Lumber mills and sawmills

58 FISHERS, HUNTERS, AND TRAPPERS

These workers fish, hunt, or trap wildlife. They may catch freshwater or deep sea fish, trap crab or lobster, or gather sea moss. Others work as hunters. They may capture wild animals to identify, exhibit, sell, or relocate them. They may kill animals for food or fur, or to protect other animals. Trappers capture animals in traps and may skin the animals for their pelts.

583 FISHERS

FISHERS catch or gather marine life, such as fish, lobsters, oysters, and seamoss. They may work alone or as part of a crew. They may fish from the shore or a dock, or dredge, or by wading or diving into the water. They may use spears, hooks and lines, nets, seines, cages, or their hands to catch or gather marine life. They may assemble and repair fishing nets and gear. They also may measure or weigh the catch and store it in containers or the hold of a ship.

SAMPLE WORK ACTIVITIES

- Operate a seiner skiff to help catch a school of fish
- Use equipment such as a seine, hoop, trammel, and net to catch fish

- Fasten, position, and anchor nets
- Attach flags and lights to buoys to identify net locations
- Haul a net to a boat using a winch
- Empty catches from nets
- Stow fish in the hold of a ship
- Fish for crab, eel, or lobster, using pots (cages with net openings)
- Measure catch with a gauge to see if they are legal size
- Catch fish by stretching nets across a creek or river
- Build enclosures from netting to catch and hold fish
- Catch fish and other marine life with hooks and lines
- Attach hooks, bait, sinkers, and floats to fishing lines
- Use a reel or winch to haul catch onto a boat deck
- Pack fish in ice
- Gather or harvest sponges and oysters from the sea bottom
- Wear a wet suit and scuba gear to gather marine life
- Use a bar to pry abalone from rocks
- Operate a dredge to harvest marine life
- Use a compass and landmarks to steer a dredge or boat
- Use hooks attached to the end of a pole to gather sponges from the sea bottom
- Gather irish moss from rocks and spread it on the beach to dry and bleach
- Use a mower to gather kelp from the bottom of the sea

HOURS OF WORK/TRAVEL

- FISHERS may work during early morning, day, evening, or night hours.
- Some FISHERS work on sea going vessels and may spend days or weeks at a time away from home.

SAMPLE PLACES OF WORK

- Fisheries
- Private fishing companies that sponser sport fishing
- For yourself, as a self-employed FISHER

584 HUNTERS AND TRAPPERS

These workers hunt, trap, or raise wild animals and birds. They may capture animals to identify, exhibit, sell, or relocate them. They may kill animals for food or furs or to prevent them from harming other animals. They may work alone or as part of a hunting party. They use equipment such as weapons, traps, nets, and poisons to capture or kill animals. They may skin animals and cure their pelts. Some workers supervise hunting expeditions or collect and capture sea life.

SAMPLE WORK ACTIVITIES

- Breed, raise, and protect game animals and birds on a state game farm or private game preserve
- Care for breeding stocks in pens
- Select pairs of animals for mating, based on their size, color, vigor, and other characteristics
- Mix feed according to formulas
- Clean and fill water and food containers
- Set traps to catch animals that may harm game animals
- Drive birds into coops so that they can be transported
- Lead an expedition to hunt for and capture sea mammals for research purposes or display
- Plan the food, equipment, and supplies needed for hunting trips
- Inspect hunting equipment
- Assign workers to mend nets, pack and load food, and do other tasks to prepare for a hunt
- Hunt, trap, and kill dangerous animals to collect bounty
- Use dogs to hunt wild animals
- Remove the ears or tail from slain animals to present as evidence of the kill
- Place nets underwater to capture sea mammals, such as whales, porpoises, and dolphins
- Kill seals for pelts, using clubs
- Set traps with bait or scent
- Patrol a trapline to remove catch and reset the traps

- Skin animals, using a knife
- Stretch pelts on frames to be cured
- Trap birds to serve as broodstock, or for identification and relocation

HOURS OF WORK/TRAVEL

- HUNTERS and TRAPPERS may work during early morning, day, evening, or night hours.
- HUNTERS and TRAPPERS may travel to nearby areas or to far away locations. Some spend days or weeks at a time away from home.

SAMPLE PLACES OF WORK

- Game preserves
- Government agencies
- Companies that sponser hunting expeditions
- Animal societies
- Museums
- For yourself, as self-employed HUNTERS or TRAPPERS

5999 MECHANICS AND REPAIRERS

These workers maintain and repair mechanical equipment and instruments. They may install or repair electrical equipment for communications systems or data processing. Others may work on vehicles, repairing autos or maintaining construction or heavy transportation equipment. Some work on precision instruments, household appliances, watches, cameras, or musical instruments. Some repair, move, or maintain industrial machinery and work to prevent breakdowns.

60 SUPERVISORS: MECHANICS AND REPAIRERS

These people supervise workers who adjust, maintain, and repair tools and machinery. They determine the workers materials and supplies needed to repair jobs, and the methods and procedures to be used. They train workers, assign duties, interpret work orders, and solve difficult work problems. They prepare progress reports and recommend ways to improve work methods and conditions. They also enforce safety rules and handle worker and customer complaints. They may perform some or all of the duties of the workers they supervise.

SAMPLE WORK ACTIVITIES

- Supervise workers who:
  - Repair and maintain equipment used at a power plant
  - Service cars for an auto dealership
  - Provide repair services at an appliance dealership
  - Repair and service boats
  - Repair and service farm machinery
  - Operate and maintain military tanks
  - Build and repair equipment used to load and unload ships' cargo
  - Test engines
  - Repair and maintain bakery equipment
  - Inspect and repair artillery weapons
  - Service and repair office machines
  - Install and repair vending machines
  - Inspect and maintain fuel storage systems
  - Repair and maintain fire fighting equipment
  - Assemble and install industrial machinery
- Talk with managers to plan maintenance programs and schedule inspections
- Review technical papers, catalogs, and other reference materials
- Talk with sales agents to select new supplies
- Talk with contractors to resolve problems in the installation of new equipment
- Review inspection and repair reports and observe repair work in progress
- Help sales workers adjust customers' service complaints
- Hire, transfer, and dismiss workers
- Develop company policies and procedures for repair services
- Review work orders and inventory reports to plan repair work
- Test vehicles and equipment, using gauges and other testing devices
- Estimate the cost of repairs, based on labor and materials requirements
- Help workers repair vehicles and equipment
- Inspect work for quality
- Resolve worker complaints
- Train workers to install and repair pumps

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Airline companies
- Auto dealerships
- Companies that build engines and turbines
- Companies that produce bakery products
- Construction companies
- Farm machinery repair shops and dealerships
- Firearms manufacturers
- Government agencies

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- Industrial plants
- Light, heat, and power companies
- Manufacturing companies
- Military services
- Petroleum refineries
- Ship and boat building and repair firms
- Telephone and telegraph companies
- Vending machine companies
- Water transportation companies

61 MECHANICS AND REPAIRERS

These workers maintain and repair mechanical equipment and instruments. They may install or repair electrical equipment for communications systems or data processing. Others may work on vehicles, repairing autos or maintaining construction or heavy transportation equipment. Some work on precision instruments, household appliances, watches, cameras, or musical instruments. Some repair, move, or maintain industrial machinery and work to prevent breakdowns.

611 VEHICLE AND MOBILE EQUIPMENT MECHANICS AND REPAIRERS

These workers maintain and repair vehicles and other mobile equipment. They may repair automobiles or auto bodies. Others repair heavy equipment used in construction or on farms. Some work on aircraft engines, hydraulic systems, or airframe assemblies such as wings. They may assemble rocket parts or work on locomotives. Some work to maintain industrial or refinery equipment and prevent breakdowns.

6111 AUTOMOBILE MECHANICS

AUTOMOBILE MECHANICS service and repair cars and other gas-powered vehicles. While most of these MECHANICS perform a variety of repairs, some specialize in the repair of a certain part of a car such as the brakes, transmissions, or engine. They use many different handtools, power tools, and testing instruments to do their work.

SAMPLE WORK ACTIVITIES

- Look at and listen to engines to find what's not working properly
- Drive cars onto a rack and test them for defects such as bent axles, worn ball joints, and bent steering rods
- Read manuals and study charts to find the right way to fix equipment
- Remove engines and transmission units from a car, using wrenches and a hoist
- Install or repair equipment, such as radios, air conditioners, power steering units, and power brakes
- Adjust engines, brakes, wheels, and other parts of a vehicle
- Replace bands, gears, seals, and valves on a transmission unit, using hand and power tools

HOURS OF WORK/TRAVEL

- Generally, these jobs do not require travel.
- Most AUTOMOBILE MECHANICS have a regular 35-40 hour work week.

SAMPLE PLACES OF WORK

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- Auto dealerships
- Auto repair shops, gas stations, and department stores that have auto service facilities

- Federal, state, and local government agencies
- Taxicab companies
- Auto leasing companies
- Auto manufacturers

6112 BUS AND TRUCK ENGINE, AND STATIONARY DIESEL ENGINE MECHANICS

These people service and repair engines used to power industrial vehicles and machinery. This includes bus, truck, tractor, train, and boat engines as well as engines used to power machines. They read job orders and manuals and listen to and test engines to determine the repairs needed. They remove engines, take them apart, and repair or replace worn or damaged parts. They may recondition engine parts and install and connect piping, controls, and ignition systems. They use mechanics' tools, hoists, jacks, meters, gauges, and power equipment.

SAMPLE WORK ACTIVITIES

- Repair and service engines on industrial trucks and tractors
- Read manuals to plan repair work
- Overhaul engines, using handtools, welding equipment, and a hoist
- Adjust safety devices
- Attach timing instruments to engines
- Read meters and gauges on test equipment to determine what is wrong with engines
- Use hoists, jacks, and mechanics' tools to remove engines and take them apart
- Inspect engine parts for damage and replace worn or damaged parts
- Install and repair engines in yachts, tugs, trawlers, and other boats
- Connect fuel, oil, and waterlines to engines
- Install engine controls and propellers in boats
- Repair and maintain diesel engines used to power construction machinery
- Use lathes, boring machines, and handtools to recondition engine parts
- Weld and cut parts, using arc-welding and flame cutting devices
- Work as an **APPRENTICE ENGINE MECHANIC**

HOURS OF WORK/TRAVEL

- During warm months, **BOAT ENGINE MECHANICS** and **TRACTOR MECHANICS** may work more than 40 hours a week. In the winter, they may work fewer than 40 hours a week. In northern states, some of the winter slack may be taken up by repair work on snowmobiles.

SAMPLE PLACES OF WORK

- Boat dealerships and repair shops
- Boat manufacturers
- Engine repair shops
- For yourself, as a self-employed diesel engine mechanic
- Marinas operated by Federal, State, or Local governments
- Private marinas
- Truck, bus, or automobile repair shops and dealerships

6113 AIRCRAFT ENGINE MECHANICS

These **MECHANICS** service and repair aircraft engines. Some inspect, test, and adjust jet and propeller-driven planes. Others make and assemble rocket engine parts. These workers use handtools, power tools, and precision measuring instruments to do their work. They may specialize in testing hydraulic, electrical power, structural systems or other aircraft systems.

SAMPLE WORK ACTIVITIES

- Open an engine throttle to full power and look for vibration or noise in engine parts
- Watch fuel and oil pressure instruments to see if they work correctly
- Test landing gear and control systems to see if they meet set requirements
- Adjust compasses and other directional equipment
- Go on test flights to make in-flight adjustments to controls
- Keep records of work to be performed in the shop to prepare planes for delivery
- Replace aircraft parts
- Measure rocket engine parts, using calipers and micrometers
- Assemble rocket engine parts into complete units

HOURS OF WORK/TRAVEL

- Generally, these workers have a standard 35-40 hour work week.

SAMPLE PLACES OF WORK

- Companies that manufacture aircraft or aircraft parts
- Airline companies
- Military services

6114 SMALL ENGINE REPAIRERS

These workers service and repair small engines, such as those found on chain saws, motorcycles, motorboats, and lawn mowers. They also may repair and adjust clutches, brakes, and other machine parts. They listen to the engines and talk with customers to determine the repair work needed. They take engines apart, test them, and repair or replace defective parts. They may rebuild motors. They may also clean engine parts, replace rings and timing devices, and replace faulty wiring. They use precision measuring tools, handtools, and machine tools.

SAMPLE WORK ACTIVITES

- Repair and overhaul motorcycles and motor scooters
  - Listen to engines, check their frames, and talk with customers to determine repairs needed
  - Connect a test panel to engines to measure the generator output and timing
  - Use handtools and power tools to remove cylinder heads, grind valves, and scrape off carbon
  - Hammer out dents and bends in vehicle frames
  - Repair and adjust clutches, brakes, and drive chains
- Test, repair, and rebuild outboard motors
  - Test outboard motors in a tank and repair, adjust, or replace parts as required
  - Write test reports that explain why boat motors were rejected
  - Use electrical testing meters to see if boat motors meet the manufacturer's specifications
  - Adjust boat motor generators and replace faulty wiring using handtools and a soldering iron
  - Replace gears, points, piston rings, and spark plugs in outboard motors
- Repair internal combustion engines used in factory service departments or repair shops
  - Take engines apart and clean parts, such as cylinder heads, and pistons.
  - Use lathes, grinders, and boring machines to rebore cylinders
- Repair engines that power electric generators
- Repair and service powered saws
- Repair engines in lawn mowers and garden tractors

HOURS OF WORK/TRAVEL

- During warm months, **LAWN MOWER** and **BOAT MOTOR REPAIRERS** may work more than 40 hours a week to meet service demands. In the winter, they may work fewer than 40 hours a week. In northern states, some of the winter slack may be taken up by repair work on snowmobiles.

SAMPLE PLACES OF WORK

- Engine manufacturers
- For yourself, as a self-employed repairer
- Hardware stores and other retail stores that sell and service tools or equipment powered by small engines or motors
- Industries that do their own small engine repair work
- Lawnmower repair shops
- Marinas operated by Federal, State, or Local governments
- Motorboat repair shops and manufacturers
- Motorcycle repair shops and dealerships

6115 AUTOMOBILE BODY AND RELATED REPAIRERS

These workers repair and refinish vehicle bodies. They straighten bent frames, remove dents, and replace crumpled parts that are beyond repair. They may straighten bumpers or replace broken glass. They may tighten brackets and loose bolts, and make other minor repairs. Some install custom equipment at customer's request. They use a variety of equipment and tools, including drills, riveters, welders, hammers, files, screwdrivers, and sanders. Some also use measuring tools and power machinery.

SAMPLE WORK ACTIVITIES

- Drive a car to listen for noises and look for leaks
- Replace worn rubber moldings on car doors and windows
- Compute the cost of parts and labor required to repair a truck body or frame
- Use handtools and power tools to repair trailers
- Weld together truck body parts and braces
- Measure and mark vinyl to be used in car roofs
- Remove the upholstery from a bus
- Use wrenches and a cutting torch to remove damaged fenders and grills
- File, grind, and sand repaired surfaces
- Overhaul used and wrecked trailer bodies
- Use power shears to cut openings in a car
- Screw, rivet, and weld new units to trailer sections
- Fill dents with solder or other plastic material
- Use a sledge hammer to remove dents in car bumpers
- Use a glasscutter to cut safety glass to a certain size and shape
- Replace a broken windshield in a car

HOURS OF WORK/TRAVEL

Generally, these workers have a standard 35-40 work week.

SAMPLE PLACES OF WORK

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- Automobile body shops
- Car and truck dealerships
- Trucking companies, bus lines, and other organizations that maintain their own motor vehicles
- Motor vehicle manufacturers
- Home repair shops

6116 AIRCRAFT MECHANICS (EXCEPT ENGINE SPECIALISTS)

These workers service and repair airplanes. They repair hydraulic systems, landing gear, propeller assemblies, and fuel tanks. They also repair airframe assemblies, such as wings and tail units. They work from blueprints and engineering orders. They use handtools, power tools, welders' rivet guns, metal-working machines, and precision measuring devices. They assemble and install power brake units, carburetors, valves, and pipelines. They also inspect wiring, switches, and controls to make sure they are in safe operating condition.

SAMPLE WORK ACTIVITIES

- Review blueprints and engineering orders to determine the location of aircraft parts
- Connect power and hot air sources to cooling systems, using handtools
- Observe meter readings and compare them with performance standards
- Adjust thermostats and air flow control devices
- Repair, replace, and assemble parts, such as wings, fuselage, tail assemblies, and landing gear
- Use power shears, welders, rivet guns, and power drills to repair aircraft frames
- Use handtools, gauges, and testing equipment to repair worn engine components
- Adjust and repair electrical wiring systems
- Install de-icing equipment and ejection seats
- Build special test [illegible] equipment used on space vehicles
- Clean aircraft parts in cleaning solutions
- Measure parts to determine wear, using precision measuring devices
- Install pumps and pipelines for airfield fuel systems
- Remove dents and scratches from aircraft parts using brushing tools and abrasives
- Work under contract as an **APPRENTICE** while learning to repair aircraft

HOURS OF WORK/TRAVEL

- MECHANICS employed by airlines may sometimes work night shifts.

SAMPLE PLACES OF WORK

- Aircraft manufacturers
- Airline companies
- Companies that make ready-built aircraft parts or assemblies
- Companies that service their own aircraft
- Military services

6117 HEAVY EQUIPMENT MECHANICS

These workers repair and service large machines such as bulldozers, graders, and power shovels. Some repair railed vehicles or sea vessels. They operate and inspect machines to find out what is wrong with them. They take machinery apart and use meters and gauges to examine parts for damage and wear. They use mechanics' handtools, jacks, and cranes or hoists to remove vehicle parts. They may weld, straighten, bolt, and refit structural metal assemblies.

SAMPLE WORK ACTIVITIES

- Repair, rebuild, and service:

- Cranes, scrapers, and other construction equipment
- Powered logging equipment, such as air compressors and road graders
- Crawler tractors and tanks
- Fuel pumps, water pumps, and control valves on streetcars and buses
- Railway freight cars and locomotives
- Underground mine cars
- Ships and other vessels

- Use mechanics' handtools, jacks, and cranes to remove vehicle parts
- Examine parts for damage and wear, using meters and gauges
- Replace assemblies, such as transmissions
- Test air-control valves, air pipes, and airhoses for leaks
- Remove and inspect wheels, brake assemblies, and roof sections
- Check bearings, gaskets, and seals for defects
- Repair and replace steel sections, using a welding torch, power wrench, and plumbing tools
- Replace window glass
- Dip parts in solvent to clean them
- Weld broken parts
- Work below the surface of water in a diving suit to inspect and repair ships
- Work as an APPRENTICE while learning to repair railed vehicles

HOURS OF WORK/TRAVEL

- Railroad CAR REPAIRERS may be assigned to night and weekend shifts on the basis of seniority.

SAMPLE PLACES OF WORK

- Automobile dealerships and repair shops
- Construction companies
- Logging companies
- Mining and quarrying companies
- Railroad company repair shops
- Any business that uses heavy equipment

6118 FARM EQUIPMENT MECHANICS

These people service and repair machinery, equipment, and vehicles used on farms to plant, tend, harvest, move, process, and store plant and animal products. This equipment includes tractors, harvesters, pumps, tilling equipment, trucks, balers, combines, and plows. They use many basic handtools and may use power tools or welding and testing equipment to do repair work. They spend much of their time repairing and adjusting equipment brought to a shop, but may travel to farms to make emergency repairs.

SAMPLE WORK ACTIVITIES

- Look at and listen to machines, motors, and engines to find out what is wrong with them
- Use handtools to take apart defective units on farm equipment
- Repair or replace parts, using such tools as a drill press, lathe, welder, grinder, and saw
- Oil and adjust machines and equipment
- Install and repair wiring and motors
- Install an irrigation system on a farm
- Align and adjust drive chains and housings on hay balers and combines
- Replace carburetors, fuel pumps, and spark plugs in farm machinery
- Wash and paint farm machines such as plows and harvesters
- Fill gas tanks and radiators
- Change tires on farm vehicles
- Install and adjust attachments on farm machinery
- Repair milking machines
- Use a lathe and drill press to machine metal parts
- Cut and fuse metals to make metal parts and pipes
- Install gas, steam, water, and air pipes in dairy equipment

HOURS OF WORK/TRAVEL

- During planting and harvesting seasons, **FARM EQUIPMENT MECHANICS** may travel many miles to make emergency repairs in farm fields.

SAMPLE PLACES OF WORK

- Service departments of farm equipment dealerships
- Independent repair shops
- Large farms that have repair shops
- Service departments of farm equipment wholesalers and manufacturers

613 INDUSTRIAL MACHINERY REPAIRERS

These workers install, repair, and service industrial machinery. They keep machines well oiled and greased, replace parts as needed, and use meters and gauges to measure and align all parts. They also keep up-to-date records of repairs and inspection schedules. They follow blueprints and other technical instructions to diagnose problems and make repairs. They use handtools and may use powered tools and machinery.

SAMPLE WORK ACTIVITIES

- Install, reepair, and service machinery such as:
  - Power steering units
  - Auto servicing equipment
  - Cargo winches and other deck equipment
  - Submarines
  - Propellers, pumps, engines, and steering gear used aboard ships
  - Forging presses, rolls, and furnaces
  - Lathes, drill presses, and other production equipment
  - Electronic equipment used in newspaper shops
  - Linotype machines and related equipment
  - Offset presses used in printing operations
  - Textile machinery
  - Washers, driers, and other laundry equipment
  - Ovens, conveyors, and slicing machines
- Follow blueprints, diagrams, and drawings
- Operate machinery to determine why it is not working properly
- Use machinists handtools, chain hoists, and steel rollers to take apart, repair, or replace defective parts
- Use meters and gauges to determine if parts meet specifications
- Assemble pumps, cylinders, valves, motors, and controls
- Clean and oil parts
- Inspect and replace seals, gaskets, hoses, tubing, motors, pumps, and filters
- Solder broken wires
- Work under contract as an **OUTSIDE MACHINIST APPRENTICE** while learning to install ship machinery
- Work under contract as a **LINOTYPE MACHINIST APPRENTICE** while learning how to repair linotype equipment

HOURS OF WORK/TRAVEL

- **INDUSTRIAL MACHINERY REPAIRERS** may be called upon to make emergency repairs at night or on weekends. Shift work may also be required in some jobs.

SAMPLE PLACES OF WORK

- Any industry in which a great deal of machinery is used, including the following manufacturing industries:

- . Carpets and rugs
- . Chemicals
- . Explosives
- . Food products
- . Knit goods
- . Machinery
- . Metal products
- . Paper
- . Primary metals
- . Rubber
- . Textiles
- . Transportation equipment

- Railroad companies
- Water transportation companies
- Military services
- Ship building and repair firms
- Forging shops
- Printing and publishing firms
- Laundries
- Oil refineries and pipelines

614 MACHINERY MAINTENANCE OCCUPATIONS

These workers do routine maintenance of production machinery. They routinely change parts such as blades, rollers, bearings, knives, and guides. They also may fill containers with water, ink, coolants, or other materials. They may oil and grease machinery. They may also take apart, clean, and repair equipment.

SAMPLE WORK ACTIVITIES

- Remove, replace, and adjust parts of machines, using handtools and a hoist
- Clean equipment, using an airhose
- Change knives in machines
- Remove motors that require major repair and replace them with new motors
- Prepare chemical solutions used to clean equipment
- Repair and replace canvas, leather, or rubber belts used to drive machinery
- Mount printing rollers on machines, using a hoist
- Use a meter to check the speed of machinery
- Thread materials into machines
- Take apart and clean electric equipment, such as wires and conduit fittings
- Replace worn surfaces on polishing wheels
- Replace metal liners used in mills, crushers, and hoppers
- Operate a shovel to remove rock deposits at a strip mine
- Oil and grease bearings, gears, and other machine parts

HOURS OF WORK/TRAVEL

- MACHINERY MAINTENANCE WORKERS are found in a variety of industries. Work hours vary from industry to industry. Some workers may work shifts.

SAMPLE PLACES OF WORK

- MACHINERY MAINTENANCE WORKERS work in almost every type of industry and plant and in many businesses. Some of these include:

- . Chemical companies
- . Iron and steel mills
- . Light, heat, and power companies
- . Machine shops
- . Manufacturing plants
- . Mines and quarries
- . Ore refineries
- . Printing and publishing companies
- . Textile mills
- . Tobacco companies

615 ELECTRICAL AND ELECTRONIC EQUIPMENT REPAIRERS

These workers install, maintain, and repair electrical and electronic equipment. Jobs range from installing dry cells in batteries to maintaining missile control systems. Some work on communications systems equipment such as TV or telegraph systems. Others install and repair telephones. Some maintain data processing equipment, industrial process control systems, lighting systems, home entertainment equipment, or transformers.

6151 COMMUNICATIONS EQUIPMENT REPAIRERS

These workers install, repair, and service communications equipment. This may include telephone, telegraph, radio, or TV equipment. They use handtools, powertools, testing devices, and soldering irons to install and repair equipment. They follow wiring diagrams and blueprints to determine how to repair and assemble parts of electrical systems. They may climb utility poles or go down into underground tunnels to work on equipment. They may drive a truck or patrol an area on foot to inspect, test, and repair equipment.

SAMPLE WORK ACTIVITIES

- Follow diagrams and blueprints to repair or install electrical equipment
- Use test meters and handtools to test and repair telephone central office equipment
- Adjust dials, coin tracks, springs, and relays on phone equipment-Use cleaning solutions to clean equipment parts
- Repair telephone switchboards on customers' premises
- Repair radio and TV receivers, radar units, and amplifiers
- Install and repair movie projectors and public address systems
- Inspect, test, and repair aircraft communication and flight control systems
- Drive a truck to inspect, test, and repair electric gate crossings and railway signals
- Repair equipment used in telegraph offices
- Use cleaning solutions to clean equipment parts
- Solder color-coded wires in equipment, following a wiring diagram
- Climb poles to tighten loose wires
- Test and repair aerial, underground, or underwater cables

HOURS OF WORK/TRAVEL

- Some of these jobs may require local travel to install, repair, and service equipment.

SAMPLE PLACES OF WORK

- Airplane and aerospace manufacturers
- Airline companies
- Companies that manufacture or repair electronic products or parts
- Radio and TV broadcasting stations
- Retail stores
- Telephone and telegraph companies
- Any industry that uses electronic communications equipment and does its own repair and service work

6152 ELECTRIC MOTOR, TRANSFORMER, AND RELATED REPAIRERS

These workers install, repair, and service electrical equipment, such as motors, transformers, batteries, wiring, and switches. They follow blueprints or diagrams and use testing devices and handtools. They may test and repair vehicle generators, starters, and motors. They may recondition parts used in electric power systems. They may replace cells in batteries. They may service electrical equipment aboard a ship. These workers take machines apart, replace defective parts, and solder loose connections.

SAMPLE WORK ACTIVITIES

- Repair electric golf carts at a golf course or repair shop,

  . Rewire electrical systems
  . Test and recharge batteries
  . Adjust brakes and belts

- Repair welding, brazing, and cutting machines

  . Inspect machines and watch them operate to find out what is wrong with them
  . Take machine apart and replace defective parts
  . Solder loose connections
  . Use welding and brazing equipment to reassemble machines

- Test, repair, and rebuild vehicle generators and starters

  . Clean motor parts in gasoline and examine them for defects
  . Assemble and adjust repaired electric motors
  . Measure the speed, horsepower, and power usage of motors
  . Test coils for shorts and grounds

- Clean, assemble, and test motors used on railway vehicles

  . Scrape the inside of motor cases to remove grease and dirt
  . Boil transformer cases in chemicals to remove grease
  . Wind new coils on the armatures of used motors

HOURS OF WORK/TRAVEL

- Some of these workers may travel locally to install, repair, and service equipment. A few perform routine repairs and maintenance aboard a ship. These workers may be away from home for long periods.

SAMPLE PLACES OF WORK

- Automobile service stations and repair shops
- Chemical plants
- Electrical equipment manufacturers
- For yourself, as a self-employed repairer
- Golf courses
- Heat, light, and power companies
- Repair shops that specialize in repairing electric motors
- Ship lines

6153 ELECTRONIC REPAIRERS, COMMERCIAL AND INDUSTRIAL EQUIPMENT

These people install, repair, and service electronic equipment used in business and industry. They work with computer, radar, and missile control systems and with systems that control industrial machinery and processes. They use electrical and electronic testing devices to locate and diagnose electrical problems. They interpret wiring diagrams to trace and connect wires. They repair and replace relays, switches, and controls. They replace plugs, wall switches, and appliance cords. They use a variety of handtools to do their work.

SAMPLE WORK ACTIVITIES

- Repair and maintain electrical equipment in a power plant

- Test equipment, using electrical testing devices
- Notify plant personnel of necessary equipment downtime
- Repair and replace relays, switches, controls, and recording instruments
- Interpret wiring diagrams to trace and connect wires
- Clean and repair motors, converters, and generator parts
- Inspect and test circuit breakers and transformers
- Test insulators and bushings for power leakage
- Keep records of repairs and tests made
- Work under contract as a Powerhouse Electrician Apprentice while learning the work

- Drive a vehicle and operate a special radio to locate the origin of radio and TV interference caused by powerlines
- Install and adjust electronic equipment in private homes and businesses
- Install and repair computer, radar, missile control, and communications systems
- Train workers in service and repair techniques
- Repair electrical instruments used to locate radioactive material in oil wells
- Install wiring, switching, and alarm systems
- Replace floor plugs, wall switches, and appliance cords in buildings

HOURS OF WORK/TRAVEL

- Some of these workers travel locally to install, repair, and service equipment. They usualy are not away from home overnight.
- The normal workweek for many of these workers is 40 hours. However, overtime work is often required. Some workers are on call 24 hours a day. Others work rotating shifts--days one week, nights the next.

SAMPLE PLACES OF WORK

- Light, heat, and power companies
- Companies that manufacture or repair electronic equipment
- Any industry that does its own electrical and electronic repair work

6154 DATA PROCESSING EQUIPMENT REPAIRERS

People in these jos install, repair, and service punched-card office machines such as collators, proof machines, and card punches. They may make regular visits to offices to check, adjust, and repair machines. They may install, adjust, or repair machines upon request. They follow charts, blueprints, and diagrams to do their work. They also use handtools such as screwdrivers and wrenches and test equipment such as gauges and volt meters. Some workers specialize in the installation and repair of wiring in these machines.

SAMPLE WORK ACTIVITIES

- Read charts, blueprints, and engineering notes to find out about the drive speed and timing of a card punch machine
- Install special parts in machines
- Operate and listen to machines to find out what is wrong with them
- Measure distances between machine parts to see if they are correct
- Adjust printing and contact brush units
- Use a voltmeter and ohmmeter to test electrical parts of machines
- Read wiring diagrams to find out the lengths, types, and colors of wires and cables in machines
- Use wrenches, screwdrivers, and a soldering gun to fasten wires and cables

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Business machine manufacturers
- Firms that provide maintenance services to businesses
- Repair shops
- Large businesses that employ their own full-time repairers

6155 ELECTRONIC REPAIRERS, HOME-ENTERTAINMENT EQUIPMENT

These workers repair and service TV sets, radios, stereos, tape recorders, and other home electronic products Some specialize in repairing one kind of equipment, while others repair several types. They talk with customers to find out what is wrong and check for common problems such as loose connections. They sometimes use wiring diagrams and service manuals to see how to locate and solve problems. They use test equipment such as volt meters and handtools such as pliers, soldering irons, and wire cutters.

SAMPLE WORK ACTIVITIES

- Test wiring, tubes, resistors, and other parts of a radio
- Solder loose radio parts together
- Install a radio in a car
- Use handtools to replace radio parts
- Take apart a TV set and replace worn switches and tubes
- Use a volt meter to test TV circuits
- Test and adjust a record changer
- Use a screwdriver and stroboscope to adjust the speed of the turntable on a record player
- Install and adjust TV sets and antennas
- Drill holes in buildings to make openings for TV antenna lines
- Install a lightning rod on a TV lead-in wire

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Customers' homes
- TV repair shops
- Shops and stores that sell and service TV sets, radios, and other electronic products

6156 HOUSEHOLD APPLIANCE AND POWER TOOL REPAIRERS

These people install, repair, and service household appliances and power tools. They repair small items, such as bench tools, vacuum cleaners, and toasters. They also work on large items, such as ranges, dryers, and air conditioners. They examine the machines, and may refer to manuals to determine what is wrong with them and how to repair them. They take the machines apart, repair or replace damaged parts, test wiring, and grease parts. They use handtools and may use power tools and welding or soldering equipment to make repairs.

SAMPLE WORK ACTIVITIES

- Install, repair, and service items such as:

- Air conditioners
- Gas meters and regulators
- Dishwashers, ranges, heaters, and refrigerators
- Toasters, cookers, lamps, and other small home appliances
- Electrical handtools and bench tools
- Toy electric trains

- Examine or listen to appliances to determine what is wrong with them
- Follow wiring diagrams to repair and install appliances
- Take machines apart and repair or place parts, such as switches, relays, fan motors, and thermostats
- Replace filters and adjust controls on appliance units
- Use handtools, pipe-threading tools, and power screwdrivers to take apart and repair appliances
- Test wiring for broken or worn circuits, using circuit testers
- Use soldering equipment to replace wiring and parts
- Test gas pipelines to locate leaks and faulty pipe connections
- Record repairs made in a log book
- Work as an **APPRENTICE** to learn how to repair electrical appliances

HOURS OF WORK/TRAVEL

- Some workers repair items brought to a repair shop. Others may drive to customers' homes or businesses to make on-site repairs.

SAMPLE PLACES OF WORK

- Electrical equipment dealers or repair shops
- Appliance dealers or repair shops
- Toy shops
- Department stores and other retail stores that sell household appliances and/or powertools
- For yourself, as a self-employed repairer
- Any industry that does its own appliance repairs

6157 TELEPHONE LINE INSTALLERS AND REPAIRERS

These workers install and repair wires and cables that connect telephone central offices to each other and to customers' phones and switchboards. They use power equipment to dig holes and set up poles to support the cables. They climb poles to attach cables and lay cables below the ground. When wires or cables break, they make emergency repairs. They also make routine checks of phone lines and install terminal boxes that connect phones to outside cables. These workers use handtools and electronic test equipment.

SAMPLE WORK ACTIVITIES

- Draw diagrams of telephone cable
- Follow a diagram to install and repair phone and telegraph lines
- Use a power shovel to dig holes for phone poles
- Climb poles or enter sewers to cut telephone feeder lines
- Unreel and string phone lines from pole to pole
- Use a winch to pull phone lines through ducts
- Make regular tests of phone lines between two points
- Ride on a truck-mounted lift to reach cables that need repair
- Use a hacksaw to cut lead sheaths that surround cable
- Twist ends of wire together and solder them in place
- Use a testlamp or bell system to test sections of cable

HOURS OF WORK/TRAVEL

- **LINE INSTALLERS** and **CABLE SPLICERS** may be called upon to work long and irregular hours to restore customers' phone service.

SAMPLE PLACES OF WORK

- Telephone and telegraph companies

6158 TELEPHONE INSTALLERS AND REPAIRERS

These workers install and repair telephones. They usually travel to work sites in trucks equipped with telephone tools and supplies. They change phones and put in new equipment. They may install a switchboard in an office or change a customer's two-party line to a private line. They also add extensions and replace old phones. When problems in phone service occur, they find the source of the problems and make repairs to restore service. These workers often specialize in servicing a particular kind of phone equipment.

SAMPLE WORK ACTIVITIES

- Install phone booths and coin collectors
- Repair phone equipment in homes and offices
- Climb poles to attach telephone drop wires
- Put together telephone equipment
- Use handtools and diagrams to put up brackets and connect wire leads
- Test newly installed equipment
- Repair and replace faulty phone equipment

HOURS OF WORK/TRAVEL

- TELPHONE REPAIRERS generally have a standard 35-40 hour work week. However, they may have to work extra hours when breakdowns occur in lines or equipment.

SAMPLE PLACES OF WORK

- Telephone companies

6159 MISCELLANEOUS ELECTRICAL AND ELECTRONIC EQUIPMENT REPAIRERS

- These workers install and repair various types of electrical equipment. This includes electrical systems in cars, trains, aircraft, computers, and industrial machinery. Many workers specialize in a particular type of equipment. Some routinely inspect a company's equipment to locate and correct defects before breakdowns occur. They often work from blueprints or wiring diagrams. They test circuits, replace parts and wiring, and may advise management on the use of electrical equipment. They use testing devices and electricians' handtools.

SAMPLE WORK ACTIVITIES

- Repair, install, and adjust items such as:
  - Relays and switches used in aircraft
  - Electrical systems in cars and trucks
  - Motors and lighting fixtures in railroad locomotives and cars
  - Power rails on subway systems
  - Gas compressor station controls
  - Control panels used to regulate electrical equipment
  - Circuit breakers and voltage regulators
  - Computer, radar, or mission control devices
  - Aircraft refueling systems
- Examine systems for short circuits or broken wires

- Follow blueprints and engineering drawings to repair equipment
- Use special testing devices to test electrical equipment
- Take electrical units apart, using handtools
- Repair or replace defective wiring in ignition, lighting, and safety-control systems
- Adjust the timing of ignition systems
- Rebuild electical units, such as starters or control panels
- Splice wire with a knife or cutting pliers
- Connect wires, following wiring diagrams
- Solder connections to fixtures, outlets, and equipment
- Measure distances with a rule to lay out work
- Drill bolt holes through castings with a power drill
- Drive rivets into holes, using a rivet gun
- Build brackets and supports, using metal cutting saws, a drillpress, grinders, and files
- Talk with manufacturers to suggest changes in the design of control and testing systems
- Work under contract as an **APPRENTICE** while learning the electrian's job

HOURS OF WORK/TRAVEL

- Some of these jobs may require travel to various work sites to inspect and repair electrical equipment.

SAMPLE PLACES OF WORK

- Manufacturing plants, including those that make:
  - . Aircraft
  - . Aluminum
  - . Automobiles
  - . Chemicals
  - . Iron and steel
  - . Locomotives
  - . Machinery
- Public utility companies
- Mining companies
- Railroad companies
- Federal, State, and Local governments
- Airline companies
- Auto repair shops
- Military services

616 HEATING, AIR-CONDITIONING, AND REFRIGERATION MECHANICS

These **MECHANICS** install, maintain, and repair equipment used to heat and cool buildings and to store food, druss, and other items that can spoil. They may specialize in installation or repair work or in servicing a particular type of equipment. They inspect and test units for defects, take faulty units apart, and repair or replace parts. They follow blueprints or other technical instructions, and use handtools, power tools, and measuring devices. They may clean parts, replace filters, adjust controls, assemble switches, and cut and connect pipes.

SAMPLE WORK ACTIVITIES

- Install, service, and repair air conditioning units in private homes and businesses
  - . Check units for defects, by watching and listening to them as they operate
  - . Take units apart and repair or replace parts, such as switches, relays, fan motors, and thermostats
  - . Replace filters and adjust controls
- Install and repair industrial and business refrigerating systems

- Follow blueprints, engineering plans, and diagrams
- Lay out reference points for parts of systems, using measuring instruments
- Install mounting brackets in floors and walls
- Lift units into position, using a hoist
- Screw, bolt, rivet, and weld, parts to assemble components such as motors, controls, and switches
- Cut, thread, and connect pipe to water or power systems
- Read gauges to adjust valves, controls, and pumps
- Drain oil and pump gas from units so they can be worked on
- Test lines, units, and connections for gas leaks
- Record pressure and temperature readings

- Install and repair hot air furnaces and stoves, using handtools and pipe-threading tools

- Build concrete foundations for furnaces
- Assemble and position heating units
- Install air ducts, smoke pipes, blowers, and stokers
- Install fuel pipes
- Connect and adjust timers and thermostats (temperature control devices)

HOURS OF WORK/TRAVEL

- These MECHANICS work in homes, office buildings, factories, and other places that have heating or cooling equipment. They may drive from job to job during the work day.

SAMPLE PLACES OF WORK

- Cooling and heating contractors
- Fuel oil dealers
- Gas utility companies
- Food chain stores
- School systems
- Manufacturers
- Any organization that operates large heating, cooling, or refrigeration systems
- For yourself, as an independent contractor

617 MISCELLANEOUS MECHANICS AND REPAIRERS

These workers install, maintain, and repair various kinds of equipment, machinery, and precision instruments. They may install and maintain heating, air conditioning, and refrigeration equipment. Some work on watches, cameras, thermostats, or control valves. Others tune and repair musical instruments. They may install elevators, rig lines for moving heavy equipment, or install and maintain heavy, complex machinery.

6171 CAMERA, WATCH, AND OTHER PRECISION INSTRUMENT REPAIRERS

These workers repair and adjust precision instruments and equipment, such as cameras, watches, scales, meters, and special types of handtools. They follow blueprints and diagrams to build, test, and adjust instruments. They assemble electrical components and test circuits and assemblies. They use handtools to take apart, repair, assemble, and adjust instruments. They also may use metalworking machines to make precision parts. They may clean and lubricate equipment parts or file and hone gears. They also may install equipment.

SAMPLE WORK ACTIVITIES

- Repair and adjust precision instruments such as:

- Weighing scales
- Gyroscopes
- Torque wrenches and other precision tools
- Devices that measure and control speed, temperature, force, or chemical properties
- Control systems used in nuclear plants
- Hydrometers (instruments used to measure the moisture in the air)
- Fare registers used in taxicabs and subway systems
- Gas meters
- Watches
- Range finders and other optical instruments
- Cameras and other photographic equipment
- Electric meters and test instruments
- Street lights and traffic signals
- Telephones, burglar alarms, and public address systems

- Follow blueprints and sketches
- Test circuits in instruments, using meters and gauges
- Inspect instruments for defects, using a special magnifier
- Adjust meters to correct defective readings
- Take instruments apart and replace worn or damaged parts
- Straighten, clean, and repaint parts of instruments
- Clean meters and adjust their gears
- Line scales into degrees, using a drafter's pen
- Use metalworking machines and measuring and testing instruments to make parts for precision instruments
- Assemble wires, insulation, and electrical components
- File and hone mechanical parts of instruments so that their gears will mesh (fit together)
- Make parts for cameras, using a bench lathe, grinder, and drill press
- Move equipment using hoists and rollers
- Keep test result records and write reports
- Work under contract as an **APPRENTICE** while learning the **INSTRUMENT TECHNICIAN'S** job
- Work under contract as an **APPRENTICE** while learning the **WATCH REPAIRER'S** trade

HOURS OF WORK/TRAVEL

- Some **WATCH REPAIRERS** work part time out of their homes.
- **ELECTRIC METER REPAIRERS** install and repair meters in businesses, industrial plants, and private homes. Local travel is generally required. Workers who install and repair medical, industrial, or photographic equipment also may travel locally.

SAMPLE PLACES OF WORK

- Jewelry stores and watch repair shops
- Watch and clock manufacturers
- Utility companies
- Industrial plants
- Tool manufacturers
- Companies that manufacture and repair precision measuring instruments, such as meters and gauges
- Companies that make, repair, and install photographic equipment
- Businesses that specialize in repairing precision instruments
- Any industry that makes or uses precision instruments or equipment

6172 MUSICAL INSTRUMENT REPAIRERS AND TUNERS

These workers repair and tune all kinds of musical instruments, including pianos, harps, drums, and horns. Most specialize in one type of instrument. They examine and play the instruments to determine repairs needed. They may replace worn or broken parts, refinish surfaces, glue cracked parts, replace strings, or reshape parts. They may cut out broken sections of instruments and carve replacement parts. They may clean, varnish, and buff instruments to protect and decorate them. They use handtools, tuning devices, and measuring instruments.

SAMPLE WORK ACTIVITIES

- Repair and tune musical instuments such as:

- . Accordions and concertinas
- . Banjos, guitars, and ukeleles
- . Pianos and organs
- . Cellos, violoas, and violins
- . Brass, wind, and woodwind instruments
- . Harps
- . Drums, cymbals, and xylophones

- Inspect and play instruments to determine defects
- Take musical instruments apart, using handtools
- Test keyboards, pedals, and action assemblies on pianos or organs
- Recover bellows with sateen and cloth
- Make replacement parts, using woodworking machines and handtools
- Glue cracked parts
- Remove cracked or broken sections, using a heated knife and handtools
- Cut out broken sections and carve replacement parts
- Reshape parts, using handtools
- Remove dents in metal parts, using a mallet
- Wash metal parts in solutions to remove lacquer and tarnish
- Adjust the pitch of instruments to match with the pitch of a tuning fork
- Clean organ pipes with a vacuum cleaner
- Cut new drumheads from animal skin, using scissors
- Sand, paint, and clean drum shells
- Replace the bow hair of stringed instrument bows
- Fit wood and metal parts together
- Put instruments back together and play notes and chords to determine the accuracy of the repair

HOURS OF WORK/TRAVEL

- Some jobs require visits to homes or businesses to repair or tune instruments that are difficult to bring to a shop.

SAMPLE PLACES OF WORK

- Musical instrument sales or repair shops
- Piano and organ dealers
- Musical instrument manufacturers

6173 LOCKSMITHS AND SAFE REPAIRERS

These people work with locks, keys, safes, vaults, and alarm systems. **LOCKSMITHS** help people get into cars, buildings, or safes that have been locked by accident or that have broken locks. They may pick locks, make duplicate keys or open locks by listening to the lock dial as it rotates. They also repair and replace worn tumblers, springs, and other parts of locks. **SAFE REPAIRERS** install and repair safes and vaults. They follow blueprints and use handtools and power tools and machines.

SAMPLE WORK ACTIVITIES

- Take padlocks, safe locks, door locks and other locks apart to repair them
- Put new or repaired tumblers into locks to change their combination
- Use a lockpick to open locks without keys
- Open safe locks by listening to lock sounds
- Keep records of company locks and keys
- Install safes and vault doors in banks and other places
- Follow blueprints to install deposit boxes in banks
- Use power drills, taps and dies, and a truck crane to install a valt door
- Remove repair, and reinstall valt and safe equipment
- Use lathes, drill presses, welding equipment, and torches to remove and repair safes
- Test locks and locking devices

HOURS OF WORK/TRAVEL

- LOCKSMITHS and SAFE REPAIRERS who handle emergency calls must drive from job to job. They work evenings and weekends and sometimes work outside.
- Some LOCKSMITHS have contracts with businesses to change safe combinations and rekey locks at set times. They travel frequently, but have regular rounds and hours.
- Other LOCKSMITHS work in shops that specialize in repair work, key duplicating, and sales. Travel is not required.

SAMPLE PLACES OF WORK

- Locksmith shops
- Safe repair shops
- Hardware and department stores that offer locksmith services to the public
- Firms that have a large number of locks that have to be maintained, such as:
  - Government agencies
  - Schools
  - Large industrial plants
- Safe and lock manufacturers

6174 OFFICE MACHINE REPAIRERS

These workers install, service, and repair office machines, such as typewriters, adding machines, cash registers, and copiers. They make regular visits to offices and stores in an assigned area to service customers' machines. They also handle emergency breakdowns. They use handtools, powertools, blueprints, and electrical test equipment. Many specialize in one type of machine.

SAMPLE WORK ACTIVITIES

- Install and service collators, sorters, and other office machines
- Operate machines to test their moving parts and listen for sounds that indicate problems
- Use meters to test machines and find causes of trouble
- Adjust typewriters so that their type spacing will be even
- Use special handtools to bend or straighten type bars
- Space and line up upper and lower case characters on typewriter keyboards
- Follow wiring charts to put together tabulating machines
- Tighten or loosen gears and electrical connections in machines
- Install printing units on punched card office machines
- Follow blueprints and drawings to repair mail-processing equipment
- Test and repair cash registers, using handtools, power tools, and circuit test meters
- Replace faulty tubes and transistors in dictating machines
- Clean and oil the moving parts of machines

HOURS OF WORK/TRAVEL

- OFFICE MACHINE REPAIRERS travel a great deal because they usually visit a number of customers each work day.

SAMPLE PLACES OF WORK

- Business machine manufacturers and dealers
- Firms that provide maintenance services for business machines
- Large companies that employ their own staff of full-time repairers
- Repair shops

6175 MECHANICAL CONTROLS AND VALVE REPAIRERS

These workers install, repair, and adjust mechanical control devices, such as gas regulators, thermostats (temperature control devices), and safety valves. These devices are used in a variety of equipment, including aircraft, power tools, and home appliances. They use handtools and may use power equipment such as metalworking machines, lathes, and grinders. They inspect equipment for defects, clean and repair parts, and may make replacement parts. They often work from blueprints or drawings and use precision instruments to test assemblies.

SAMPLE WORK ACTIVITIES

- Install, test, repair, and adjust equipment such as:
  - Pumps, generators, and valves used in rocket engines and aircraft
  - Gas welding equipment
  - Pneumatic tools and air motors
  - Hydraulic door closers
  - Lubricating equipment
  - Spray-paint guns and paint-mixing machines
  - Safety valves used on railway cars
  - Valves and pipefittings used in oil refinery pipelines
  - Gas meters and electric power meters
  - Brazing equipment
- Follow sketches, catalogs, parts lists, and charts to repair equipment
- Listen to equipment operate to locate the cause of trouble
- Test assemblies for leaks and cycle operations
- Check connections for defects, such as shorts, grounds, and loose pipe joints
- Drill out broken screws or bolts, using an electric hand drill
- Remove scales and rust from parts, using a grinding wheel
- Brush a soap compound on air connections to detect leaks
- Make replacement parts from metal, wood, or plastic, using power tools, a lathe, and a grinder
- Replace defective parts with new or rebuilt ones
- Dip parts in chemical solutions to clean them
- Remove dirt and rust from parts, using an electric wire brush
- Use sandblasting equipment to clean fittings
- Turn setscrews to adjust meters
- Screw, solder, or braze parts together to reassemble repaired units
- Order new parts by catalog number, size, and type
- Keep records of repairs made

HOURS OF WORK/TRAVEL

- These workers may make emergency repairs at night or on weekends. This is particularly true for industrial machinery repairers.
- Some of these jobs require local travel to make service or repair calls at homes or businesses.

SAMPLE PLACES OF WORK

- Manufacturing plants, including those that produce or process:
  - Aircraft or rockets
  - Chemicals
  - Food products
  - Instruments and appliances
  - Machinery
  - Metals or metal products
  - Paper or paper products
  - Railroad locomotives and cars
  - Transportation equipment
- Movie studios
- Welding shops
- Construction companies
- Utility companies
- Home appliance dealerships and repair shops

6176 ELEVATOR INSTALLERS AND REPAIRERS

These workers install, repair, and service elevators, escalators, and similar equipment. They install this equipment during construction and replace and repair equipment already in place in buildings. To install elevators, they erect steel frames and bolt heavy steel guide rails to shaft walls. They install electrical wires and controls, circuit breakers, and switches. They also assemble elevator cars and car platforms. They use many different handtools, power tools, and testing meters and gauges.

SAMPLE WORK ACTIVITIES

- Use test lamps, and volt meters to test elevator motors and switches
- Check escalators and dumb-waiters to make sure they meet safety requirements
- Take apart defective units and repair or replace locks, gears, cables, or wiring
- Install push-button controls to make elvators more modern
- Oil bearings on elevators
- Study blueprints to lay out elevator sections
- Weld brackets to support rails and framework
- Install cables, pumps, and motor foundations
- Connect electric wires to control panels and motors
- Use a hoist to position motors and equipment

HOURS OF WORK/TRAVEL

- Generally, these workers have a standard 35-40 hour work week.

SAMPLE PLACES OF WORK

- Elevator manufacturers
- Local contractors who specialize in elevator maintenance and repair
- Government agencies and business firms that do their own elevator maintenance and repair

6177 RIGGERS

RIGGERS set up and repair ropes, chains, and other devices used to support and position equipment and materials. Some install and repair rigging used on ships to lift and move heavy loads or support masts and sails. In other jobs, they assemble rigging to lift and move equipment, materials, and workers at plants, shipyards, and construction sites. ACROBATIC RIGGERS put up equipment for aerial and acrobatic acts in circuses, carnivals, and other shows. RIGGERS use many different kinds of tools and equipment to do their work.

SAMPLE WORK ACTIVITIES

- Make, install, and repair rigging and weight-handling gear on ships
- Attach hoists and pulling gear to rigging to lift, move, and position machinery
- Loop and splice cable to form slings and towing bridles
- Splice and tie rope to form nets, ladders, and other rigging
- Sew canvas on rigging, using sail line and sailmaker's tools
- Select and attach gear and braces to rigging
- Install and repair ship's rigging such as masts, booms, and gaffs
- Select cable, ropes, pulleys, winches, and blocks to be used in rigging
- Instruct workers who hoist and move loads with rigging
- Use hand tools and power wrenches to set up and rig hoisting equipment
- Drill holes in a platform and fasten metal plates to hold steel rods
- Stretch wire or rope between steel rods
- Climb ladders to attach ropes, swinging trapezes, and other rigging to ceilings
- Put up safety nets for high-wire and trapeze acts

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Companies that build ships
- Shipping companies
- Construction companies that build roads, buildings, bridges, and other large structures
- Manufacturing companies
- Companies that put on circuses, carnivals, and other shows that use rigging
- Any company or business that uses rigging

6178 MILLWRIGHTS

MILLWRIGHTS install, repair, and maintain complex machinery. They perform all tasks required to prepare machinery for use in plants. This may include building concrete or wooden platforms on which heavy machines are mounted, building structures, or directing workers to do the jobs. They work from blueprints and use all types of building materials and tools. They do a variety of installation work or specialize in certain types of machinery. They may take apart old equipment to make room for new machines.

SAMPLE WORK ACTIVITIES

- Build and repair equipment used to load and unload ships' cargo
- Install machinery used to emboss, die-cut, and score paper
- Talk with engineers to plan the layout of equipment
- Arrange machine parts on floorspace
- Direct workers to position equipment
- Put together and install electrical units
- Adjust machine controls
- Repair and service equipment
- Test hydraulic turbines
- Study blueprints to see how machines operate
- Operate machines to see how they work
- Use wood, cement, and steel to build foundations for machines
- Bolt, weld, and rivet machine parts
- Drill, tap, or ream holes in machine parts
- Bend and install pipe
- Test machinery that has been installed

HOURS OF WORK/TRAVEL

- MILLWRIGHTS employed by construction companies and companies that make and install machinery may have periods of unemployment. Often, these MILLWRIGHTS must travel.

SAMPLE PLACES OF WORK

- Manufacturing companies
- Construction contractors

6179 MECHANICS AND REPAIRERS, N.E.C.

Workers in these jobs repair and service a wide variety of equipment. For example, some service machine guns and other weapons used by the military. Some repair department store mannequins. Some repair survival equipment, such as life rafts and pressure suits. Some salvage usable parts from wrecked cars, or repair and reline ladles used to pour hot metals. Most use handtools, and some use power tools and machinery as well.

SAMPLE WORK ACTIVITIES

- Repair wax patterns used in casting processes at a foundry
  - Seal cracks, seams, and joints, using wax and a heated knife
- Repair and reline ladles used to pour molten metals
  - Patch cracked ladle linings by covering them with clay
  - Dry and bake new linings, using a blowtorch
- Repair worn and damaged equipment used by refinery workers
  - Examine rubber boots and gloves and fill them with water to detect leaks
  - Mend holes in rubber gloves with rubber patches
  - Mend leaky metal buckets by soldering their holes
  - Grind dull tools with a grinder
- Forge and repair a variety of metal objects in a blacksmith's shop
  - Heat metal stock in a forge or furnace
  - Hammer stock into specified sizes and shapes
  - Work under contract as an apprentice while learning the blacksmith's craft
- Repair broken or cracked castings and forgings
  - Calculate the size, depth, and position of cracks
  - Use airhammers, drills, and grinders to smooth and finish castings
- Salvage usable parts from wrecked cars and trucks
  - Take vehicles apart, using handtools, bolt cutters, and torches
  - Clean parts and store them in bins according to condition and part number
  - Sort, pile, and load scrap on railroad cars or trucks
- Service machine guns and other weapons used on military aircraft
  - Take apart, clean, oil, and repair machine gun mounts and bomb hoists
  - Inspect electric circuits, following wiring diagrams
  - Service equipment used to control naval guns
  - Repair and replace parts of motors
  - Test fire weapons and ammunition
- Repair other equipment such as:
  - Life rafts, pressure suits and other survival equipment
  - Firefighting equipment
  - Damaged or worn tents and awnings
  - Damaged parachutes
  - Dental office equipment
  - Wooden and fiberglass boats
  - Swimming pool equipment
  - Mining facilities
  - Damaged or worn books
  - Damaged car and truck tires

HOURS OF WORK/TRAVEL

- These people work in a variety of jobs and settings. Work hour and travel requirements vary. Many jobs involve work at a factory or plant, where shift work may be required. Some jobs may be seasonal. Some jobs may offer opportunity for temporary or part-time work.

SAMPLE PLACES OF WORK

- Foundries
- Ore refineries
- Fibers industries
- Wholesale trade firms
- Military services
- Auto service stations
- Government agencies
- Construction companies
- Companies that make and/or service products such as:
  - Firearms
  - Hats and caps
  - Instruments and appliances
  - Pens and pencils
  - Plastic products
  - Ships and boats
  - Sports equipment
  - Swimming pools
  - Textiles and related products
- Any business or industry that makes or uses a large amount of equipment that must be serviced or repaired

6299 CONSTRUCTION AND EXTRACTIVE OCCUPATIONS

These workers build and repair structures or remove resources from the ground. They use handtools and heavy equipment which they set up and maintain. They may build houses, construct steel frames for high-rise buildings, or build bridges and roads. Others may wire or plumb buildings, or do finishing work. Workers in extractive occupations may mine for coal, set explosives to loosen earth, or locate and drill for oil deposits.

63 SUPERVISORS: CONSTRUCTION AND EXTRACTIVE OCCUPATIONS

These workers supervise the activities of workers or crews who build structures or extract resources from the earth. They determine the workers, materials, and supplies needed to meet work schedules or complete a job. They assign duties and check work. They study work orders, keep work records, and enforce safety rules. They may hire and fire workers, set up and help maintain equipment, and perform some of the duties of the workers they supervise.

631 SUPERVISORS: CONSTRUCTION

These workers supervise the activities of other construction workers. They may supervise overall construction crew activities or they may supervise workers in a particular trade such as carpentry or bricklaying. Supervisors determine the workers, materials, and supplies needed to meet work schedules. They assign duties and check work to insure that it meets company standards and construction codes. They hire workers, enforce rules, and keep records.

6311 SUPERVISORS, OVERALL CONSTRUCTION

These workers supervise and coordinate the activities of construction crews. They study work assignments and determine the workers, materials, and supplies needed to meet work schedules. They interpret work orders, specifications, and technical drawings. They train new workers, assign duties, review completed work, and solve work problems. They order materials and supplies, keep work records, set up equipment, and may perform many of the tasks of the crew members. They also prepare progress reports and recommend ways to improve work methods and conditions.

SAMPLE WORK ACTIVITIES

- Supervise one or more crews of workers who do such things as:
  - Build tunnels or dams
  - Build highways, pipelines, or similar construction projects
  - Build houses and buildings
  - Construct manholes and vaults
  - Install street light poles
  - Lay pipe for phone, power, water, and sewage systems
  - Dredge waterways
  - Operate blasting equipment
  - Maintain wiring, heating, and water supply systems in buildings
  - Maintain highways, roads and rights-of-way
- Help superiors plan construction procedures, work schedules, and material needs
- Read and interpret blueprints and work orders
- Determine the spacing, line-up, and depth of blast holes
- Direct workers in using equipment
- Plan and coordinate all maintenance to roads in a given district
- Check structures to make sure they meet safety regulations
- Inspect work in progress to see that quality standards and work schedules are being met
- Compile reports of the costs of completed work

HOURS OF WORK/TRAVEL

- These jobs may require travel to project sites many miles away from home. Some CONSTRUCTION SUPERVISORS spend long periods of time in temporary quarters near construction sites and commute home on weekends.

SAMPLE PLACES OF WORK

- Construction companies
- State and city public works departments
- State highway departments
- Utility companies
- Construction contractors

6312 SUPERVISORS: BRICKMASONS, STONEMASONS, AND HARD TILE SETTERS

These people supervise workers who build or repair structures such as walls, walks, and chimneys. They determine the workers and materials needed to complete assignments, plan work methods and procedures, assign duties, and check the quality of work done. They train workers, interpret work drawings, and enforce safety rules. They solve difficult work problems and may perform many of the tasks of the workers they supervise. They may also hire and fire workers, order supplies, set up equipment, keep work records, and write progress reports.

SAMPLE WORK ACTIVITIES

- Supervise workers who:
  - Lay brick, tile, cinderblock, or other materials to build or repair walls
  - Build brick chimneys or smokestacks for industrial plants
  - Build stone structures such as piers
  - Lay walks and curb stones
- Assign workers to specific duties
- Measure distances and lay out the first tier of bricks
- Train new workers in the use of handtools
- Direct workers who raise scaffolds
- Inspect scaffolds for safety
- Inspect work in progress to see that specifications are met
- Keep time and progress records

HOURS OF WORK/TRAVEL

- These jobs often require local travel to supervise projects at construction sites. Work hours may be affected by the weather.

SAMPLE PLACES OF WORK

- Special trade, building, or general contracting firms
- Government agencies and businesses that do their own construction and alteration work
- For yourself, as a self-employed contractor for small jobs such as patios, walks, and fireplaces

6313 SUPERVISORS: CARPENTERS AND RELATED WORKERS

These people supervise workers who build, install, and repair wooden structures. They study work assignments and determine the workers, materials, and supplies needed to complete them. They plan work methods and procedures, order supplies, assign duties, and check work to see that standards are met. They train workers, interpret blueprints, and enforce safety rules. They solve work problems and may perform duties of the workers they supervise. They also evaluate worker performance, prepare progress reports, and keep work records.

SAMPLE WORK ACTIVITIES

- Supervise workers who:
  - Build, install, and repair wooden structures and fixtures
  - Build plasterboard walls and ceilings
  - Fasten lathing to walls
  - Prepare walls for painting or papering
  - Build and repair wooden boats, floats, and lifecraft
  - Lay hardwood floors
  - Build wooden forms to hold concrete
  - Install sky lights, desks, and cabinets
- Study blueprints to determine the dimensions of structures
- Use math formulas to estimate the worker hours and materials required to complete jobs
- Prepare cost estimates for work contracts
- Determine the order in which work activities should be done
- Select materials and structural units, such as lumber, premade doors, and panelins
- Train and assist workers
- Lay out floor plans and cabinet work, using a rule, framing square, and calipers
- Measure and mark the location of metal framing on walls and ceilings
- Assign specific duties, such as installing cabinets or doors
- Use measuring tools to check the alignment of walls
- Inspect work to see that company standards and building code requirements are met

HOURS OF WORK/TRAVEL

- Some of these jobs require travel to construction sites. A few involve work aboard ships, freighters, or tankers at sea or docked at ports or harbors.

SAMPLE PLACES OF WORK

- Carpentry contractors and homebuilders
- Government agencies
- Utility companies
- Manufacturing firms
- Construction companies and general contractors
- Ship-building firms
- Shiplines
- For yourself, as an independent contractor

6314 SUPERVISORS: ELECTRICIANS AND POWER TRANSMISSION INSTALLERS

These people supervise workers who install and repair wiring and electrical equipment. They study assignments and determine the workers, materials, and supplies needed to complete them. They plan work methods and procedures, order supplies, assign duties, and check to see that finished work meets set standards. They train new workers and enforce safety rules. They interpret blueprints and diagrams and handle difficult work problems. They evaluate worker performance, prepare progress reports, and may perform tasks of the workers they supervise.

SAMPLE WORK ACTIVITIES

- Supervise workers who:
  - Build, maintain, and repair electrical systems of power plants
  - Install and repair wiring and electrical equipment in buildings or ships
  - Repair electrical systems in vehicles
- Plan the wiring and installation of equipment such as motors, generators, and switches
- Read and interpret blueprints and diagrams
- Plan work procedures
- Estimate the worker hours and materials required to complete jobs
- Assign specific duties to workers
- Train new workers in the use of testing equipment
- Resolve worker and customer complaints
- Inspect wiring and fixtures to see that they meet building code specifications
- Use test equipment, such as voltmeters, to test circuits and wiring

HOURS OF WORK/TRAVEL

- Many of these jobs require local travel to supervise the repair or installation of outdoor or off-site equipment.
- A few of these jobs involve work aboard ships or tankers. Workers in these jobs may spend time at sea or at harbors or docks.

SAMPLE PLACES OF WORK

- Manufacturing plants, including those that produce:
  - Automobiles
  - Machinery
  - Chemicals
  - Iron and steel
  - Aircraft
- Construction companies
- Electrical contractors
- Public utilities, including power plants and telephone companies
- Mining companies
- Railroad companies
- Federal, State, and Local government facilities
- Shipbuilding firms
- Shiplines
- Harbors and docks

6315 SUPERVISORS, PAINTERS, PAPERHANGERS, AND PLASTERERS

These people supervise the activities of workers who paint, plaster, or hang wallpaper. They study work schedules and decide how many workers will be needed to complete different jobs. They explain tasks to workers, assign duties, check work, explain company policies, and enforce safety rules. They help workers solve problems and may work along with them, hire and fire workers, or recommend them for promotion. They also train new workers, keep work records, and order materials and supplies.

SAMPLE WORK ACTIVITIES

- Explain company policies to workers

- Train new workers in the use of painting equipment
- Inspect surfaces to be painted to see if they need to be scraped or sandblasted
- Assign duties to workers who paint ships
- Check poster panels to see what size they are before they are covered with ads
- Study blueprints to figure out the number of workers and amount of materials which will be needed to plaster
- Show workers how to mix and apply plaster, stucco, and cement
- Help workers mix and blend paint, remove old paint, and repair and clean surfaces

- Check painted surfaces to see if they meet certain standards
- Inspect plastered surfaces for quality of work

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Building contractors
- Organizations that own or manage large buildings such as hotels, offices, factories, and schools
- For yourself, as an independent contractor

6316 SUPERVISORS: PLUMBERS, PIPEFITTERS, AND STEAMFITTERS

These people supervise workers who install and repair pipes, fittings, and fixtures for gas, oil, water, steam, and waste disposal systems. They plan work schedules, order materials and supplies, and hire and train new workers. They assign duties, check work for quality, enforce company rules, and keep work records. They follow blueprints and use precision measuring tools to plan and check work. They also solve difficult work problems and may perform duties of the workers they supervise.

SAMPLE WORK ACTIVITIES

- Hire workers for an oil pipeline project
- Order tools, materials, and equipment needed to install a high-pressure system in a plant
- Train new workers in the use of equipment and tools
- Explain safety rules and company policies to workers
- Assign workers to install hot water systems in new homes and buildings
- Inspect bathroom and heating units installed by workers to see if they meet standards
- Use micrometers, rulers, and levels to check piping installed in ships
- Keep records of workers' time and work done
- Recommend that workers be promoted or fired
- Help workers install heating and cooling units
- Direct workers in repairing fire sprinkler systems
- Direct workers who operate digging and pipelaying machines

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Plumbing and pipefitting contractors
- Construction companies
- Government agencies

- Public utilities
- Ship building industries
- Aircraft manufacturers
- Plants and business where operations require the moving of liquids and gasses through pipes. For example:
  - . Chemical plants
  - . Food-processing plants
  - . Petroleum industries
- For yourself, as an independent contractor

6318 SUPERVISORS: OTHER CONSTRUCTION TRADES

These people supervise workers who build chimneys, erect structures, move houses, mix concrete, or do similar work at building or mining sites. They study assignments and determine the workers, materials, and supplies needed to complete them. They assign duties to workers and check work for quality. They train new workers, explain company policies, and enforce safety rules. They handle work problems, prepare progress or other reports, and may hire and fire workers. They may set up machines and equipment and often perform some or many of the tasks of the workers they supervise.

SAMPLE WORK ACTIVITIES

- Direct workers who repair and maintain railway rights-of-way
  - . Issue instructions to workers who build and repair roadways, bridges, and other structures
  - . Send work crews and materials to derailment sites to make necessary repairs
  - . Inspect equipment along the right-of-way to see that standards are met
  - . Direct workers who keep time and work records
- Supervise workers who build chimneys and similar structures
  - . Read blueprints and measure distances to lay out work
  - . Direct workers in setting forms, erecting steel supports, and pouring concrete
  - . Watch work in progress to make sure that safety and work standards are met
- Supervise work crews that erect structural steel
  - . Mark locations for new rivet holes
  - . Direct workers to drill and ream new holes
  - . Help workers perform tasks, such as riveting, welding, and bolting
- Supervise workers who restore land areas after mining operations
  - . Study survey data (information) and talk with mining officials to plan restoration projects
  - . Direct crews to fill, grade, and contour land
  - . Inspect equipment for safety
  - . Keep records of land areas restored
- Supervise a field crew that collects earth samples for lab tests
  - . Direct workers who transport bulldozers, trucks, and drilling machines to work areas
  - . Record the location, depth, and soil content of earth samples
- Supervise workers who maintain roads and flood-control facilities along power line right-of-way
  - . Review work orders to determine the types of equipment required for a job
  - . Examine maps and blueprints to determine the location of power lines
  - . Direct the paving of areas in and around power plants
  - . Instruct workers in the use of tractors and road graders

- Supervise workers who do such things as:

  - Drive pilings into the ground to make buildings foundations
  - Install tile in buildings
  - Make and repair wooden molds used to cast concrete
  - Cut and set marble slabs used in walls
  - Cut and install glass windows
  - Cover roofs with tile
  - Repair and overhaul aircraft cabin fixtures
  - Prepare and apply concrete to make highways and dams
  - Put up prefade houses
  - Move houses and other buildings
  - Erect metal storage tanks

HOURS OF WORK/TRAVEL

- These people often work in offices and at construction sites. They may travel from place to place to check or supervise activities at various project sites.

SAMPLE PLACES OF WORK

- Construction companies
- Railroad companies
- Mining and quarrying companies
- Light, heat, and power companies
- Water companies
- Concrete mixing companies
- Airlines or aircraft manufacturers
- Firms that manufacture or move buildings

632 SUPERVISORS: EXTRACTIVE OCCUPATIONS

These people supervise workers who drill oil wells or blast and cut materials to be mined. They study production schedules, determine the workers and equipment required, and plan work procedures and schedules. They interpret job orders, assign duties, and enforce safety rules. They also help solve work problems and check work for quality. They keep time and production records, and may order materials and supplies. They also may hire, train, and fire workers.

SAMPLE WORK ACTIVITIES

- Supervise workers who drill oil and gas wells

  - Plan the delivery of drilling tools, fuel, water, and other supplies to the drill site
  - Direct workers to put up, take down, and move drilling rigs
  - Direct crews to operate power units and drilling equipment
  - Order the types of drill bits to be used
  - Direct workers to install devices which control the flow of oil when the wells begin to produce
  - Order the maintenance and repair of equipment

- Supervise workers at a rock quarry

  - Schedule work assignments
  - Set off explosive charges
  - Compile production and shipping records
  - Settle work-related disputes

- Direct mining workers who operate bulldozers, conveyors, and other devices to load coal into trucks and railroad cars

. Talk with other supervisors to plan daily work schedules
. Coordinate the use of hoists used to raise and lower equipment, workers, and supplies in an underground mine
. Direct workers to unload materials from trucks and railroad cars
. Inspect equipment for defects and schedule needed repairs
. Conduct safety meetings

- Supervise workers who blast, remove, and crush ores in open-pit mines

. Plan the location and drilling of blast holes
. Train workers in drilling blast holes and firing explosives
. Direct workers in loading and removing ore from the mine

- Direct the loading, unloading, and assembly of a dredge used to mine gravel

. Operate a dredge
. Assign new workers to experienced workers for on-the-job training
. Evaluate workers' job performance and recommend that they be promoted or fired
. Keep production records

- Supervise workers who harvest, transport, and wash raw salt taken from pond beds

HOURS OF WORK/TRAVEL

- Many of these jobs require that workers move from place to place, since work at a particular site may be completed in a few months. Some workers may be away from home for weeks or months at a time.

SAMPLE PLACES OF WORK

- Oil companies
- Companies that specialize in drilling or cleaning oil and gas wells
- Mining and quarrying companies
- Construction companies

64 CONSTRUCTION TRADES

These workers build and repair buildings and other structures. They may work as bricklayers or stone masons, building walls, sewers, smokestacks, abutments, or piers. Others may be tile setters who apply ceramic tile to walls, floors, and ceilings to create decorative coverings. Carpenters build and repair wooden structures such as house frameworks, doors, cabinets, and stairs. Some workers install drywall, which may be used instead of plaster on ceilings and walls.

641 BRICKMASONS, STONEMASONS, AND HARD TILE SETTERS

Workers in these occupations use various materials to build and decorate structures. They may use brick, concrete, or cinder blocks to build or repair walls, sewers, boilers, furnaces, or smokestacks. They may use stone to build or repair walls, abutments, or piers. Decorative work is done by hard tile setters who apply ceramic tile to walls, floors, and ceilings. Workers use mortar to secure brick and stone. They use cement with tile. Some stone is bolted into place.

6412 BRICKMASONS

BRICKMASONS lay bricks, concrete and set cinder blocks, and similar materials to build and repair walls, sewers, boilers, furnaces, smokestacks, and structures. To put up a wall, they first build the corners at each end of the wall and stretch a line between the corners to serve as a guide for laying the brick. They spread a bed of mortar (cement mixture) with a trowel (a flat metal tool), place bricks on the mortar bed, and then tap them into place. They cut bricks with a hammer and chisel to fit around corners.

SAMPLE WORK ACTIVITIES

- Use a trowel to spread a layer of mortar that serves as a base and binder for bricks
- Use a plumb bob, gauseline, and level to determine how to line up bricks
- Assemble an acid-proof brick lining in metal tanks used to store acid
- Repair kilns used to make tile, brick, and sewer pipe
- Calculate angles and layers for building walls, arches, columns, and corners
- Repair chimneys by sandblasting, filling in cracks with mortar, applying paint, and installing lightning rods
- Use handtools, spray guns, and sandblasting machines to repair coke ovens

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Contracting firms (special trades, building, and general)
- Government agencies or businesses that do their own building and alteration
- Construction firms
- Brick and tile manufacturers
- Foundries
- Chimney cleaning businesses
- Coke manufacturers

6413 STONEMASONS

STONEMASONS build and repair stone structures such as walls, abutments, and piers. They also lay walls, curbstones, and special types of masonry for vats, tanks, and floors. They may work from drawings in which each stone has been marked for placement. To build a stone wall, they set the first layer of stones into a shallow bed of mortar. Then they line up the stones and tap them into place. They may weld or bolt pieces of metal together within the wall to hold the wall in place. They also cut stones into shapes and clean them.

SAMPLE WORK ACTIVITIES

- Use a hammer, chisels, and other tools to shape a stone before it is set
- Line up stones with a plumbline, and finish joints between stones with a pointing trowel
- Mend broken marble slabs to restore them to usable condition
- Apply stone to the surface of structures to decorate them
- Mix mortar and pour it into a trench to prepare a foundation for setting base stones
- Use a hoist or skid to remove sections of stone from a truck bed and guide the stones onto a foundation
- Install gravestones at a cemetery
- Set stone to build a pier

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Construction companies
- Contracting firms (special trade, building or general)
- Government agencies and businesses that do their own construction and alteration
- Private homes and businesses

6414 TILE SETTERS, HARD

HARD TILE SETTERS apply ceramic tile to walls, floors, and ceilings to create decorative coverings. Since tile varies in color, shape, and size, they may first arrange the tiles on a dry floor according to a plan. When the pattern looks right, they lay the tile, using cement or paste. They must first tack a mesh support to the surface to be tiled. Then they mix and spread the cement, let it dry, apply grout (a very fine cement) and tap each tile into place. They often have to cut tiles to fit into corners.

SAMPLE WORK ACTIVITIES

- Look at blueprints and measure and mark surfaces to be covered
- Spread a plaster or cement base over a metal screen that has been cut and attached to the floor
- Mix and apply mortar
- Put glue on walls and subfloors with a brush and trowel
- Use hand cutter to cut wall tiles to fit around bathroom fixtures
- Use handtools to install bathroom fixtures
- Wipe grout between tiles and remove excess grout with a wet sponge

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Construction companies
- Building contractors
- Schools, hospitals, and private businesses

642 CARPENTERS AND RELATED WORKERS

Workers in these occupations use wood and dry wall to build structures. They follow blueprints to frame and build walls. They finish interior walls with drywall instead of wet plaster. They may work with fiberglass, plastic, or plaster. They may build scaffolds for dry wall installation or other work. They may also build other wooden products such as floors and cabinets. Measuring tools and other equipment are used.

6422 CARPENTERS

CARPENTERS build, install, and repair all kinds of wooden structures. They also work with materials such as plastic or fiberglass. The duties of carpenters vary greatly. They may build house frameworks, scaffolds, and wooden forms for concrete. They may erect docks, bridges, and supports for tunnels and sewers; build stairs; install floors, cabinets, doors, and wood paneling; and put up tile. They follow blueprints and use measuring tools, power tools, and a variety of handtools to do their work.

SAMPLE WORK ACTIVITIES

- Work from blueprints or spoken instructions to build and repair wooden structures of homes and buildings
- Mount soundproof tile to walls and ceilings of buildings
- Mark cutting and assembly lines on materials, using pencil, chalk, and marking gauge
- Build stairs and lay out and install wooden partitions
- Build rough wooden structures such as concrete forms, tunnel supports, and temporary frame shelters
- Construct premade wooden forms to form parts of a ship
- Use a woodworking machine to build cabinets in a carpenter's shop
- Build a ship's structural woodwork and wooden gear
- Build and repair wooden boats
- Repair wooden railroad bridges, trestles, and tunnel supports
- Replace decayed, split, or crooked timber on a bridge
- Install flooring, wall linings, sidings, and window sills in railroad cars
- Mold, bend and laminate wood to form parts of a ship
- Build a wooden storage tank
- Cut, fit and install supporting timbers in an underground mine
- Repair doors and windows in mobile homes
  Put up billboards
- Join precut wood, metal, and plastic board pieces to assemble a roof for a building
- Make props for movie and theater productions

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Contracting and homebuilding firms that construct, remodel, or repair buildings and other structures
- Government agencies
- Utility companies
- Manufacturing firms and other large organizations that do their own carpentry work
- Boat or shipbuilding firms
- Businesses that build or sell signs and billboards

6424 DRYWALL INSTALLERS

These workers install and finish drywall panels. Drywall is often used instead of wet plaster to make walls and ceilings in new buildings. It consists of a thin wall of plaster between two pieces of heavy paper. Some **DRYWALL INSTALLERS** build metal or wooden frameworks and attach laths (wire mesh) to them so drywall can be applied. They also may fill the joints between drywall sheets and prepare the walls for painting. At times, these workers may work from ladders and scaffolds.

SAMPLE WORK ACTIVITIES

- Fasten drywall panels to wall framing
- Use handtools and portable power tools to fasten a metal lath to walls and ceiling

- Read blueprints to find out how to install metal framing and drywall panels
- Put up metal framing and laths so drywall can be fastened to them
- Measure and mark cutting lines on drywall with a square, tape measure, and pencil
- Fit and fasten boards on walls with screws and adhesive
- Use a keyhole saw to cut openings in drywall panels for electrical outlets, vents, or other fixtures
- Nail metal pieces around windows and doors to protect drywall edges
- Use an electric hoist to move completed panels

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Construction companies
- Contracting companies that specialize in drywall construction
- Companies that build prefabricated buildings or mobile homes

643 ELECTRICIANS AND POWER TRANSMISSION INSTALLERS

These workers may install and repair electrical wiring used to distribute electrical power in buildings and ships. Or they may construct, install, and service power lines used to transmit and distribute electrical energy for such things as TV antennas, street lights, trolley cars, lightning rods, and traffic signals. They may erect poles for power lines or work on underground cable systems.

6432 ELECTRICIANS

ELECTRICIANS install and repair electrical wiring in buildings and ships. They follow blueprints and building plans and use handtools, power tools, and soldering irons. They connect wiring to light fixtures and power equipment. They install and test switches, relays, and circuit breakers. They may climb ladders to reach and repair equipment.

SAMPLE WORK ACTIVITIES

- Prepare sketches that show the location of wiring
- Measure, cut, and install electrical conduits, using such tools as a hacksaw and pipe threader
- Install fire or burglary alarm systems
- Splice wires twisting or soldering the wires together
- Connect wiring to light fixtures and power equipment
- Install switches, relays, and circuit breaker panels
- Install, inspect, and service lighting systems used at airports
- Service and repair neon signs
- Stand in a tower truck bucket to reach and repair street lights
- Replace blown fuses, bulbs, and other electrical equipment
- Train new workers in electrical repair work
- Install electrical equipment aboard a ship
- Work as an APPRENTICE while learning the electrian's job

HOURS OF WORK/TRAVEL

- ELECTRICIANS usually work 8 hours a day, 5 days a week. However, they may work overtime or during nights and weekends to make emergency repairs.

SAMPLE PLACES OF WORK

- Electrical contractors
- Airline companies
- Companies that install and repair electrical signs
- Light, heat, and power companies
- Companies that manufacture premade buildings
- Companies that build and repair ships and boats
- Any industry that does its own electrical installation and repair work

6433 ELECTRICAL POWER INSTALLERS AND REPAIRERS

These workers construct, repair, and service electric power lines. This includes power cables and lines for TV antennas, trolley cars, street lights, lightning rods, and traffic signals. They may erect and repair posts or poles that support the wires and cables. They may work on underground cable systems or on overhead cables and lines. They splice, solder, and insulate wires and test them for defects. They follow blueprints and manuals and use electricians' handtools and testing devices.

SAMPLE WORK ACTIVITIES

- Install, service, and repair:
  - Telephone and telegraph lines
  - Electrical power lines and cables
  - Community TV antenna cables
  - Transformers, fuse boxes, and relays
  - in underground substations
  - Poles, feeder cables, and wiring used in street-railway systems
- Climb poles and install lightning rods, phone wires, and other equipment
- Locate the source of disturbance to an electric powerline, using electrical testing equipment
- Climb poles and towers to replace or repair overhead conductors, switches, and fuses
- Use math to determine the electrical resistance needed on wires
- Connect TV sets to an antenna system
- Test cables and wiring to detect broken circuits or faulty connections
- String wire conductors between poles
- Splice, solder, and insulate wiring to join sections of a powerline
- Work as LINE ERECTOR APPRENTICE

HOURS OF WORK/TRAVEL

- These workers sometimes may work overtime or during nights or weekends to make emergency repairs.

SAMPLE PLACES OF WORK

- Light, heat, and power companies
- Construction companies
- Any business or industry that installs and maintains its own power systems
- For yourself, as an independent contractor

644 PAINTERS, PAPERHANGERS, AND PLASTERERS

These workers apply finishes to buildings and equipment surfaces. They may paint walls, equipment, or boats after they clean the surface and prepare it for painting. Others may cover walls, ceilings, signs, and other surfaces with wallpaper, fabric, or other coverings. Some workers finish indoor walls and ceilings with plaster coatings to help make them fireproof and soundproof.

6442 PAINTERS (CONSTRUCTION AND MAINTENANCE)

These PAINTERS put paint, varnish, and other finishes on surfaces of buildings or equipment. First, they sand, scrape, or burn away old paint so that the new paint will stay on properly. When paint is hard to remove, they may loosen it with chemicals or special tools. They also remove grease, fill cracks, and brush off dust. Next, they cover surfaces with primer or sealer. Then they mix the paint and apply it with brushes, rollers, or spray guns. They may work from scaffolds or climb ladders to paint tall structures.

SAMPLE WORK ACTIVITIES

- Apply paint, stain, or enamel to decorate and protect surfaces and trim on a building
- Use sandpaper and steel wool to remove old paint from surfaces
- Fill nail holes, cracks, and joints with putty or plaster
- Mix paints, oil, and thinner to prepare paint of a certain color
- Prepare wood and metal surfaces of boats for painting
- Spray or brush hot plastics on surfaces of ships
- Paint walls, furniture, and other parts of a movie set to make them look old
- Apply colored plastic to glass surfaces to reduce glare from sunlight
- Spray a vinyl base coat on the sheetrock walls of mobile homes to make the walls look like plaster
- Remove old paint from railroad freight cars, using a blow torch

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Contracting firms that build, repair, or remodel structures
- Hotels, offices, factories, schools, and other organizations that own or manage large buildings
- Construction firms
- Companies that build boats and ships
- Motion picture studios
- Railroad companies
- Private homes and businesses that require painting work to be done

6443 PAPERHANGERS

PAPERHANGERS cover walls, ceilings, signs, and other surfaces with wallpaper, fabric, or other coverings. Before they cover surfaces, they wet or steam any old paper to remove it and apply a sealer so that the new covering will stay on. To cover the surface with the new material, they first measure the area to be covered and then cut strips of covering from a roll, making sure that the patterns at the top and base will match. They then apply paste to the strips, place them on the surface, and smooth them by hand or with a brush.

SAMPLE WORK ACTIVITIES

- Measure walls and ceilings to find out the number and length of strips of paper needed to cover them
- Use sandpaper to smooth rough spots on surfaces
- Mix paste and use a paste brush to put paste on the backs of strips of fabric
- Remove old paper with a steam machine, water, or chemical remover and a scraper
- Staple or tack posters on walls, fences, and poles
- Smear paste on a billboard, using a brush
- Use a long-handled brush to smooth and line up poster sections on billboards
- Apply acid to damp plaster to prevent lime from bleeding through a paper covering
- Cut strips from a roll of wallpaper, using shears or a razor

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Contracting firms that build, repair, or remodel structures
- Construction firms
- Advertising companies
- Private homes and businesses

6444 PLASTERERS

PLASTERERS finish indoor walls and ceilings with plaster coatings to help make them fireproof and soundproof. They also apply cement, plastic, or stucco to outdoor surfaces and make decorative designs in plaster. They mix and spray or trowel plaster onto supportive wire mesh or directly on surfaces to cover them. They also create attractive plaster finishes and mold special designs to go on walls and ceilings. They use many special tools, including hawks, floats, rods, and sprayers.

SAMPLE WORK ACTIVITIES

- Follow blueprints or spoken instructions to cover walls with coats of plaster
- Direct workers to mix plaster and put up scaffolds
- Spread plaster over wood strips or a masonry base, using a trowel
- Roughen undercoats of plaster with a scrater (metal scraper) so the next coat of plaster will stick
- Install guide wires on building surfaces to show how thick the stucco should be
- Mold and install ornamental plaster panels and trim
- Decorate final coats of stucco with small stones

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Independent contracting firms that do plaster work
- Construction companies
- Private homes and businesses

645 PLUMBERS, PIPEFITTERS, AND STEAM FITTERS

These workers install pipe systems that carry water, steam, air, or other liquids or gases. They also repair piping systems and put in plumbing fixtures, appliances, and heating and cooling equipment. Some install water, gas, and waste disposal systems in buildings; oil, air, and water lines in engines; or piping systems in planes or ships. Others install complex pipe systems used by oil refineries and nuclear plants. They use wrenches, drills, saws, torches, power machines, and many other kinds of tools and equipment.

SAMPLE WORK ACTIVITIES

- Cut, bend, and put together sections of pipe to install heat and power systems in ships
- Repair toilets, sinks, and waste disposal systems in homes and businesses
- Install and service oil burners in furnances
- Cut, thread, and bend pipes, using handtools and power tools
- Lay pipe to repair and extend gas lines between gas mains and homes
- Follow blueprints to install air, fuel, and water lines on diesel engines
- Put together and test hydraulic systems in aircraft and missiles
- Install gas-heating units in industrial boilers
- Assemble sprinkler systems used in yards and buildings
- Study building plans to put in home drainage systems
- Dig ditches to lay gas pipe below streets
- Deliver and install water-softner tanks
- Cover boilers and cooling units with asbestos or cork to reduce heat loss and deaden sound
- Install gas and water meters

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Plumbing, pipefitting, and steamfitting contractors
- Government agencies
- Public utilities
- Ship building companies
- Aircraft manufacturers
- Petroleum, chemical and food-processing industries
- Private homes and business

646-7 OTHER CONSTRUCTION TRADES

These workers help build, maintain, or tear down such structures as buildings, roads, or pipelines. They may operate air hammers or drilling equipment. They may rivet or bolt steel frameworks. Others may roof buildings or install glass. Some operate equipment to spread concrete or asphalt or pack gravel. Workers may pour and finish concrete or lay and repair railroad tracks. Some install carpet and vinyl floor coverings. Some install soft tile.

6462 CARPET AND SOFT TILE INSTALLERS

These workers install and replace soft floor coverins such as carpet and linoleum. They also may install pads that go under carpets, or cover walls and cabinets with metal or plastic tiles. They inspect surfaces to make sure they are firm, dry, and clean, and then prepare the surfaces to be covered by sanding them and filling in cracks. They also measure and mark off areas to be covered. They may cut, glue, and fit floorings; roll out, cut and tack down carpet; or use putty, glue, or cement to install soft tile.

SAMPLE WORK ACTIVITIES

- Remove worn floor coverins from floors and lay new floor coverins
- Measure carpet and cut it to the right size to fit a room
- Lay tiles on cement accordins to a plan
- Sew pieces of carpet tosether by hand
- Cut and trim carpet to fit alons walls or door openinss
- Sweep, scrape, sand, or chip dirt from floors and fill floor cracks with putty, plaster, or cement
- Measure and cut rubber, linoleum, or cork tile
- Spread adhesive cement over a floor to hold tiles to the floor
- Lay tiles on cement accordins to a plan
- Remove excess cement from joints between tiles
- Apply blocks, strips, or sheets of sound-deadenins coverins to floors

HOURS OF WORK/TRAVEL

(No Inforaation)

SAMPLE PLACES OF WORK

- Floorins contractors
- Repair contractors
- Retail stores that sell floor coverins and offer home installation
- Construction companies
- Private homes and businesses

6463 CONCRETE AND TERRAZZO FINISHERS

CONCRETE FINISHERS mix, pour, and finish concrete for many types of construction projects. Work may range from finishins off small jobs, such as patios and floors, to buildins huse dams and concrete highways. They also color concrete surfaces and make concrete beams, columns, and panels. TERRAZZO WORKERS create attractive walkways, floors, patios, and panels by exposins marble chips or pebbles on the surfaces of finished concrete.

SAMPLE WORK ACTIVITIES

- Level, smooth, and shape surfaces of freshly poured concrete, usins a straishtedse and a screed (a wooden or metal strip used to level fresh concrete)
- Use a power srinder or chisel and hammer to remove roush spots from concrete surfaces
- Mix cement, usins a hoe or concrete-mixins machine
- Spread concrete to desired depths
- Use power tools to break up and repair old concrete surfaces
- Mix sand, cement, and water to make cement srout
- Clean chipped concrete with a wire brush
- Sprinkle colored stone chips on concrete to decorate it
- Apply cement, sand, pisment, and marble chips to floors and stairways to make a strons and attractive finish
- Grind and polish terrazzo surfaces

HOURS OF WORK/TRAVEL

- CONCRETE and TERRAZZO WORKERS may not be able to work outdoors durins rain or freezins weather.

SAMPLE PLACES OF WORK

- General contracting firms that construct entire projects, such as highways or large buildings
- Concrete work contractors
- Floor contractors
- Local public works departments
- Public utilities
- Manufacturing firms that do their own construction work
- Firm that contract to install decorative floors and wall panels
- Private homes and businesses

6464 GLAZIERS

GLAZIERS install glass and mirrors in structures such as windows, doors, walls, tables, and display cases. Sometimes the glass must be cut before being installed. They measure, mark, and cut the glass to the required shape and size. They secure the glass in place with materials such as putty, rubber gaskets, metal clips, and wood moldings. They also may attach metal hinges, handles, or other hardware to the glass. They use handtools and may use power cutters and grinders. They may work high above the ground.

SAMPLE WORK ACTIVITIES

- Install:
  - . Glass in windows, skylights, store fronts, and display cases
  - . Glass surfaces in walls, ceilings, and tabletops
  - . Mirrors on walls, ceilings or tables
  - . Glass into door frames
  - . Glass enclosures for showers
- Mark the outline of patterns on glass
- Cut glass, using a glasscutter
- Break off excess glass by hand or with a notched tool
- Fasten glass panes into moldings
- Smooth putty around the edges of glass panes to seal joints
- Bolt metal hinges, handles, locks, and other hardware to glass doors
- Set glass doors into frames
- Spray glass with a tinting solution to prevent light glare
- Use a crane to install large pieces of glass
- Work from a scaffold high above the ground
- Work under contract as an APPRENTICE while learning the GLAZIERS craft

HOURS OF WORK/TRAVEL

- When installing large pieces of glass, GLAZIERS work in teams. They occasionally travel to small towns where few people, if any, are equipped and qualified to install glass in buildings.

SAMPLE PLACES OF WORK

- Glass companies
- Glazing contractors
- Businesses or agencies that do their own construction work

6465 INSULATION WORKERS

INSULATION WORKERS fill or line walls, floors, and ceilings with materials such as cork or fiberglass to help keep buildings warm in the winter and cool in the summer. They also install insulation in meat storage rooms and around steam pipes and boilers to prevent the transfer or loss of heat. They may paste, wire, tape, or spray the insulation onto surfaces or between surfaces. They use common handtools such as trowels, brushes, scissors, and staple guns, as well as power saws and compressors.

SAMPLE WORK ACTIVITIES

- Blow insulation into spaces within walls, floors, and ceilings
- Nail slabs of cork or fiberglass to walls
- Cover boilers and tanks with asbestos or cork
- Insulate a railroad car
- Cut sheets of insulation into sections, using a handsaw and miter box
- Cover the gas piping in a refrigeration unit with molded plastic
- Climb a ladder to install or remove old insulation
- Apply weatherboard to the outside of buildings, using carpenter's tools

HOURS OF WORK

(No Information)

SAMPLE PLACES OF WORK

- Insulation contractors
- Chemical factories, petroleum refineries, powerplants, and similar places which have extensive steam installations for power, heating, and cooling
- Large firms that have cold-storage facilities
- Construction companies
- Companies that build or repair trains or railway cars

6466 PAVING, SURFACING AND TAMPING EQUIPMENT OPERATORS

These people operate or tend equipment that spreads or smooths concrete, asphalt, or other materials on roads, parking lots, or airport runways. They also may use equipment that packs gravel, dirt, or other material. They move levers, push pedals, and turn handwheels to start, stop, and control spreading and packing equipment. They also may clean and replace worn machinery parts. Some of the machines these workers use must be driven.

SAMPLE WORK ACTIVITIES

- Operate a machine that spreads and levels hot asphalt on highways and streets
- Turn valves to regulate the temperature of asphalt
- Move levers and turn handwheels to lower attachments that spread wet concrete within forms
- Drive and operate a truck equipped with a tank that sprays oil on road surfaces
- Run a machine that spreads gravel, stone, and cold-mix asphalt on road surfaces
- Tend gears on the rear of a truck that sprays hot tar on streets
- Service and repair a machine that presses out concrete curbing on parking lots
- Operate a machine that cuts grooves in concrete
- Tend a portable unit that heats asphalt
- Drive and operate a machine that lays, spaces, and ties steel rods used to strengthen concrete highway paving
- Operate a gas-powered machine that packs earth around a form
- Operate a machine that breaks up pavement and drives guardrail posts into the earth

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Paving contractors
- Construction companies that work on highways, dams, or airports
- State highway departments
- Railroads companies

6467 RAIL AND TRACK LAYING EQUIPMENT OPERATORS

These people operate equipment used to lay and repair railroad tracks and rails. Some of these workers drive a vehicle that moves and lays track or rails. Others operate equipment used to maintain and repair tracks. This equipment includes portable grinders, spike pullers, and spike drivers. Still others operate machines mounted on flat-bed railroad tracks. These machines are used to spread and shape crushed rock to form the foundation for railroad tracks and to level and straighten the tracks over the foundation.

SAMPLE WORK ACTIVITIES

- Drive a special vehicle over sections of track that are to be removed
- Push controls to close a grasping device on a rail section and to lift and move the section
- Use a spike puller to pull old spike from tie
- Raise rails, using a hydraulic jack
- Operate a machine to cut portions of tie so that the tie plate can be inserted to hold a rail
- Drill holes through rails and tie plates so that bolts and spikes can be inserted
- Operate a track-wrench machine to tighten or loosen bolts that hold ends of rail together
- Spray ties and joints with oil to protect them from the weather
- Use controls to start jacks, tampers, and scraper blades on a machine
- Use a power grinder to reshape worn railroad switch points

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Railroad companies
- Mining companies that use railroad equipment

6468 ROOFERS

ROOFERS cover the tops of buildings with materials such as asbestos, slate, wood, asphalt, aluminum, or tile to insulate them and make them waterproof. They install and repair various kinds of roofing, including tar and gravel, slate or wooden shingles, and tiles. They also may waterproof walls and floors. They measure, cut, and lay shingles and tiles, and nail or cement them to roofs. Sometimes, they spread hot tar over a roof, cover the tar with layers of roofing felt, and then add gravel to the top.

SAMPLE WORK ACTIVITIES

- Cut roofing paper to size and nail it to the roof in overlapping strips to form a base for roofing materials
- Fasten shingles to a roof with asphalt, cement or nails
- Punch holes in slate, tile, or wooden shingles, using a punch and hammer
- Mop or pour hot asphalt or tar onto a roof base
- Apply gravel or pebbles over the top layer of a roof, using a rake
- Attach shingles to decks to waterproof them
- Spray roofs with a special foam to bind, seal, or soundproof sections of a structure
- Cut strips of flashing and fit them into angles formed by walls and vents
- Attach premade roof sections to rafters

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Roofing contractors
- Businesses and government agencies that do their own construction and repair work
- Private homes and businesses

6472 SHEETMETAL DUCT INSTALLERS

These workers install heating or air ducts in homes, commercial buildings, and factories. The ducts are part of heating and ventilating systems. Installers follow blueprints and specifications as they fasten duct parts in place using bolts, rivets, or welding. They check fitted parts for conformity to specifications and for leaks or flaws.

SAMPLE WORK ACTIVITIES

- position assembled ductwork according to blueprint specifications
- use handtools, rivets, welding, and power tools to secure ductwork
- use calipers, scales, and micrometer to check conformance specifications
- check system for leaks and flaws in installation

6473 STRUCTURAL METAL WORKERS

STRUCTURAL WORKERS join steel frameworks and other metal parts of structures with bolts, rivets, screws, and other fasteners. They also place steel or iron in forms used to make reinforced concrete. They help erect and put together structures such as buildings, bridges, dams, storage tanks, and playground equipment. They use blueprints, power tools, hoisting equipment, and a variety of handtools to do their work.

SAMPLE WORK ACTIVITIES

- Set up equipment to raise and place steel beams
- Fasten steel beams to a hoist, using a chain, cable, or rope
- 'Ride' on a steel beam to guide it into place
- Use a crowbar, jacks, and handtools to force steel parts into place
- Bolt steel or metal parts together
- Catch hot rivets in a bucket and use tongs to place them in holes
- Cut and weld steel parts

- Read blueprints to find out where to place doors, windows, and skylights
- Put together swings, slides, and other playground equipment
- Bend steel rods with handtools or a rodbending machine

HOURS OF WORK/TRAVEL

- Some STRUCTURAL METAL WORKERS must travel some distance to work sites, while others work close to home.

SAMPLE PLACES OF WORK

- General contracting firms
- Large steel companies that are involved in the construction of bridges, dams, and large buildings
- Government agencies
- Public utilities
- Large industrial firms that do their own construction work

6474 DRILLERS, EARTH

EARTH DRILLERS set up and operate many kinds of earth drilling equipment. Some use drilling equipment to tap water deposits or to make space for underground pipes. Others drill holes for poles or posts or for concrete pier foundations. A few drill into the earth to remove soil samples for testing or to prepare holes to be filled with explosives used in mining and construction work.

SAMPLE WORK ACTIVITIES

- Set up and operate a portable drilling rig to drill a water well
- Assemble drilling tools, using handtools or power tools
- Move levers and pedals and turn handwheels to control the action of a machine that drills wells and lowers casings into wells
- Replace drill bits with tools that collect samples of earth or rock
- Keep records of drilling progress
- Operate a machine mounted on a truck to dig holes for poles or posts
- Operate a mounted drilling unit to drill holes for concrete pier foundations
- Set up and operate drilling equipment to obtain solid core samples from deep within the earth
- Record the depths from which earth core samples were taken

HOURS OF WORK/TRAVEL

(No Information)

SAMPLES PLACES OF WORK

- Public utilities
- Construction companies
- Well drilling companies and contractors
- State highway departments
- Mining companies

6475 AIRHAMMER OPERATORS

AIRHAMMER OPERATORS use drills powered by compressed air to make holes in or break up ore, rock, and concrete. They may drill holes to help miners blast out rock and ore, for example, or to break up road pavement or concrete structures. They prepare for drilling by connecting air and water lines to the jackhammer. They pull a trigger to start the drill and then lean on the hammer to guide the drill bit into the surface. At times, they may replace or sharpen drill bits. These workers must be in good physical condition.

SAMPLE WORK ACTIVITIES

- Connect air and water lines to a jackhammer
- Pull a trigger on the hammer and lean on the hammer to guide the drill into rock
- Break up sidewalks and pavements
- Replace or sharpen air-drill bits
- Drill holes in rock to set explosives charges
- Mark desired dimensions on stone, using a rule and chalkline
- Change drills or add lengths as holes get bigger

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Paving contractors
- Construction companies
- Mining and quarrying companies

6476 PILE DRIVING OPERATORS

These workers operate a large machine called a pile driver that drives wood or steel pilings or posts into the earth. The pilings driven into the earth serve as foundations for structures such as buildings, bridges, and piers. **PILE DRIVING OPERATORS** use hand and foot levers and turn valves to position pilings and control the action of the pile driver.

SAMPLE WORK ACTIVITIES

- Operate a pile driver mounted on skids to drive pilings that will form the foundation of a bridge or building
- Move hand and foot levers to control equipment that hoists (or lifts) piling
- Position the hammer over the top of a pile and move levers and turn valves to start the hammer

HOURS OF WORK/TRAVEL

(No Information)

SAMPLE PLACES OF WORK

- Construction companies that work on bridges, piers, or large buildings

6479 CONSTRUCTION TRADES, N.E.C.

People in these jobs help build, maintain, or tear down structures, such as buildings, roads and pipelines. Work duties and settings vary. For example, they may install windows and door frames in homes, place lane markers along highways, or apply siding to building walls. They may prepare buildings to be moved or install sprinkler systems. These workers often work as part of a team or crew. They use handtools and may use power tools and equipment as well.

SAMPLE WORK ACTIVITIES

- Build casing doors in kilns
- Install metal window and door frames
- Work under contract as an APPRENTICE while learning to install the ornamental iron work
- Assemble aluminum swimming pools at worksites
- Install antennas for radio or TV sets
- Tend machines that pump concrete and cement through hoses to coat surfaces
- Dig at archeological sites to unearth pottery, bones, and other items
- Install underground pipe for farm irrigation systems
- Install lane markers along paved highways and streets
- Operate a machine to clean rust, scale, and dirt from pipelines
- Apply asbestos, aluminum, and other types of siding to building walls
- Apply liquid glaze and colored chips to floors and walls
- Prepare buildings for moving from one site to another
- Build and repair houses, barns, and garages according to rough sketches or verbal orders
- Build and repair underground vaults and manholes
- Set up hydraulic jacks used to raise concrete floors and roof slabs
- Attach awnings onto buildings
- Install draperies or venetian blinds in customers' homes
- Tend pumps, compressors, or generators to provide power for tools and equipment
- Install concrete panels to build fences
- Operate equipment to drill holes in walls
- Repair fences and gates around factories, homes, or farms
- Install underground lawn sprinkler systems
- Put up roadside signs and billboards
- Install flags and lights on booths for events such as parades

HOURS OF WORK/TRAVEL

- CONSTRUCTION TRADES WORKERS may work on a variety of construction projects throughout the year. Some work mostly on projects in or close to the community in which they live. Others may travel long distances and spend weeks at a time at remote locations.

SAMPLE PLACES OF WORK

- Construction companies
- Utility companies
- Government agencies, such as State highway departments
- Oil companies
- Companies that produce prefabricated buildings
- Companies that make and install products such as window shades and fixtures, TV antennas, concrete structures, window glass, and awnings
- House moving companies
- Billboard companies
- Retail stores that sell and install products, such as drapes, portable swimming pools, or metal fences

65 EXTRATIVE OCCUPATIONS

These workers remove resources from the ground. They may drill for oil or test for oil deposits. They may place explosives in mines, quarries, or structures to remove or loosen materials. Some operate mining machinery that removes resources, cuts through rock, or moves materials. Others do the physical labor of mining, working as a team to remove minerals, build or repair structures, or assemble, test, or repair equipment.

652 DRILLERS, OIL WELL

OIL WELL DRILLERS operate a variety of drills to take oil from the earth. They also may use specially designed equipment to look for or to test for oil deposits. Some direct the use of special tools and techniques to recover lost equipment or other objects that sometimes block oil wells. Others operate truck-mounted hoists equipped with a derrick to clean out and restore old and damaged oil or gas wells.

SAMPLE WORK ACTIVITIES

- Plan methods and select tools for removing objects such as broken casing, and drill pipe from wells
- Start pumps which move water, oil, and other fluids through a well to clean it
- Use handtools, power wrenches, and tongs to connect sections of drill pipe
- Move a winch lever to lower tools into an oil well
- Look at instrument readings to determine where items in a well are located
- Operate a drilling rig to drill shallow boreholes to get samples of earth or to place explosives
- Count sections of drill rod to determine the depth of a borehole
- Start pumps that move mud through drill pipe and boreholes to cool drill bits and flush out drill-cuttings
- Keep records of footage drilled and the materials used
- Lower in explosives into a borehole to start the flow of oil from a well

HOURS OF WORK/TRAVEL

- OIL WELL DRILLERS may expect to move from place to place, since their work in a particular field may be completed in a few months.

SAMPLE PLACES OF WORK

- Oil companies or independent drillers

653 EXPLOSIVE WORKERS

People in these jobs place explosives in open pits, underground mines, quarries, buildings, or other structures. They also set off explosives to loosen or remove earth, rock, or other materials or structures. They study land formations or structures to determine the type and amount of explosive charge to use. They may instruct other workers to drill blast holes or drill them themselves. They connect wires to firing devices and set off charges. These workers must be very careful to see that safety rules are followed.

SAMPLE WORK ACTIVITIES

- Drill and blast earth and rock to build underground shafts and tunnels for roads and railways
- Wedge timber structures to prevent cave-ins
- Put together, place, and set off explosive charges to loosen earth, rock, stumps or to

demolish buildings
- Assemble a blasting cap and fuse and place them with the main charge in a hole or near the object to be blasted
- Connect wires to primers and cover charges with clay, sand, or other materials
- Mark patterns for drill holes
- Push plungers or press buttons to set off blasts
- Explode torpedoes in bored oil wells to start the flow of oil
- Pack dynamite into blast holes with tamping rods
- Move, store, and keep inventories of explosives
- Tie lengths of delaying fuses into a pattern to time the order of explosions

HOURS OF WORK/TRAVEL

- Some EXPLOSIVE WORKERS travel long distances to work sites. They may stay at a particular worksite for several weeks.

SAMPLE PLACES OF WORK

- Mining and quarrying companies
- Construction companies
- Contracting firms that specialize in tearing down old buildings and structures

654 MINING MACHINE OPERATORS

These workers operate equipment used in mining and building projects. For example, some operate equipment to move steel framework within a tunnel during construction. Some use a huge electric chain saw to cut a strip beneath coal deposits to control the direction of the coal as it falls after blasting. Some operate machines to drill holes used for explosives. Some sit or lie in the cab of a machine and operate levers to cut or rip out coal and load it in shuttle cars. Some use torches to cut holes in rock at a quarry.

SAMPLE WORK ACTIVITIES

- Set up and operate equipment to move steel framework within a tunnel
  - . Turn a handcrank to control a jack used to lift steel tunnel shields
  - . Move levers to control equipment used to position metal segments
- Set up and operate a truck-mounted machine to bore blasting holes at construction sites
  - . Use jacks to position the machine
  - . Move levers to start and operate the drill
  - . Install drill steels
  - . Use handtools to replace broken or worn drilling machine parts
- Operate a powered machine to cut channels in quarry stone
  - . Lay track for the machine
  - . Start and stop the machine, and replace worn or damaged parts when necessary
- Operate a mobile machine to drill blastholes in underground mines
  - . Drive a drilling machine into areas where coal, salt, or ore has been undercut
  - . Measure undercuttings to determine where holes should be drilled
  - . Drill holes to specified depths
- Operate a truck-mounted machine to cut shale from the wall of a mine
  - . Use a shovel, sledge hammer, pinch bar, and jacks to put up supports and lay rails

. Drive the machine over the rails to pit the face of a mine

- Watch a control panel to detect problems with the machine
- Operate a machine used to mine coal in an underground mine

. Drive the machine into position
. Move levers to advance the machine boring head into the coal
. Start a machine that gathers coal and moves it to a shuttle car
. Repair, oil, and adjust the machine and change its cutting teeth

- Cut holes in rock, using a jet piercing torch

HOURS OF WORK/TRAVEL

Some of these jobs may require travel to project sites in out-of-town locations.

SAMPLE PLACES OF WORK

- Coal and other mining companies
- Construction companies that specialize in large projects such as tunnel and sewers
- Quarries

656 MINING OCCUPATIONS, N.E.C.

People in these jobs do much of the day-to-day physical labor at mines, quarries, and oil drilling sites. They often work as part of a team or crew of workers to build and repair structures. They also may assemble, test, repair, or clean equipment. Some help with safety or blasting operations. Many of these workers use handtools. Some operate power tools, pumps, jacks, or powered machinery.

SAMPLE WORK ACTIVITIES

- Repair and issue safety lamps at an underground mine

. Clean lamps and batteries, using rags and steel wool
. Replace faulty or worn parts, such as cables, bulbs, wicks, and batteries
. Test batteries for strength
. Play batteries into an electric charger to restore their power
. Keep records of lamps issued to miners

- Assemble and repair oilfield machinery and equipment

. Dig holes and pour concrete to make foundations for derricks
. Bolt together pump and engine parts
. Connect tanks and flow lines

- Work as a member of a casing crew at oil well sites

. Signal workers to hoist casings onto an oil derrick
. Position casing for couplings

- Help another worker advance a plow blade through the face of coal in an underground mine

. Pull levers to adjust the depth of the cut of a plow blade
. Use an electric buzzer to signal a worker when the machine plow blade is in the proper position
. Adjust and make minor repairs to mining equipment

- Operate a self-propelled machine to install roof support bolts in underground mines

. Position a safety jack to support a

mine roof until bolts can be installed
. Place timbers and posts into position to form roof supports

- Load explosives or chemicals into devices used to shoot or burn holes through casings and earth at oil well sites
- Remove mud and muck from the surfaces of stones at a quarry with a pick, shovel, and steam hose
- Operate a pneumatic jack on an offshore drilling barge to raise or lower the barge for drilling operations
- Mine precious metals from sand and gravel
- Spray water onto the walls, roofs, and floors of underground mine to prevent explosions
- Help another worker pump oil or gas into barges and tankers

HOURS OF WORK/TRAVEL

- Some of these workers may travel to work at remote mining or oil drilling sites. They may spend several weeks or months at one site before moving on to a different work location. Other workers commute daily to and from local projects.

SAMPLE PLACES OF WORK

- Mining and quarrying companies
- Oil companies
- Water transportation companies